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ST. MARYS FALLS CANAL, MICHIGAN

STATISTICAL REPORT
OF
LAKE COMMERCE PASSING THROUGH CANALS AT SAULT STE. MARIE
MICHIGAN AND ONTARIO
DURING
Season of 1946

PREPARED UNDER DIRECTION OF
Colonel A. Riani
CORPS OF ENGINEERS, WAR DEPARTMENT

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STATISTICS OF LAKE COMMERCE

PASSING THROUGH

THE AMERICAN AND CANADIAN CANALS

AT

SAULT STE. MARIE, MICHIGAN AND ONTARIO

DURING THE SEASON OF 1946

GENERAL DATA

Sources of information for traffic data.—The compilation was done by the Detroit District, Corps of Engineers, Detroit, Michigan, under the direction of Colonel A. Riani, District Engineer.

Freight tonnage and passengers.—The freight unit used and designated as a "ton" means in every instance a ton of 2,000 pounds. The data relative to freight and passengers were compiled from vessel operators reports and reports made by vessel masters when passing through the American and Canadian canals.

Registered tonnage.—The term "registered tonnage" as used in this report means the net tonnage of the vessel, which is the cubical capacity in tons of 100 cubic feet each, available for cargo and passengers, and is obtained from vessel papers.

General merchandise covers all items not otherwise classified, including such commodities as package freight, cement, wool, etc.; prior to 1916 also included are petroleum products, broken stone, sand, and gravel, and prior to 1937 automobiles are reported. "Stone" represented building stone alone prior to 1916; it now includes broken stone, gravel, and sand.

The American and Canadian canals.—The total freight traffic of 91,586,895 tons for the season of 1946, when compared with the season of 1945, shows a decrease of 21,395,735 tons or 19 percent, and the net registered tonnage of 67,590,408 a decrease of 19,341,599 or 22 percent.

The freight items of pulpwood, soft coal, salt, stone, petroleum products, and automobiles showed an increase; all other items showed a decrease when compared with the season of 1945.

The total number of passengers 87,871 (includes 6,232 non-commercial passengers), shows an increase of 41,827 or 91 percent.

The total passages through canals numbered 17,995, a decrease of 4,413 or 20 percent.

The total lockages numbered 14,446, a decrease of 3,028 or 17 percent.

The season of navigation covered a period of 268 days, during which time the average monthly freight traffic was 10,252,264 tons and the net registered tonnage 7,566,090.

The recommended drafts for St. Marys River, issued by the Lake Carriers' Association, were as follows: April 5, 20 feet 6 inches up-bound and 23 feet 6 inches down-bound; June 1, 21 feet 0 inches up-bound; June 12, 21 feet 3 inches up-bound and 23 feet 9 inches down-bound; June 28, 24 feet 0 inches down-bound; July 23, 21 feet 6 inches up-bound; August 9, 21 feet 3 inches up-bound; September 9, 21 feet 0 inches up-bound; September 24, 20 feet 6 inches up-bound and 23 feet 6 inches down-bound; October 21, 20 feet 3 inches up-bound.

The American canal.—The traffic through the American canal was 98 percent of the total freight, 94 percent of the total registered tonnage and 40 percent of the total passengers carried; the amounts being 89,647,966 tons of freight, 63,347,746 tons register and 34,737 passengers. Compared with the season of 1945, there was a decrease of 21,316,644 tons of freight or 19 percent; 19,377,185 tons net register, or 23 percent and an increase of 27,940 passengers, or 411 percent.

The American records showed that vessels necessarily spent 14,709 hours and 04 minutes in the canal, or an average of 63 minutes, which included waiting for lockage and passage through locks and canal, the latter being 1¾ miles long.

Other delays at the canal, which included vessel repairs and waiting for favorable weather amounted to 528 hours and 37 minutes.

The American canal opened March 25 and closed December 17, 1946; total time in operation during the season, 268 days.

The Canadian canal.—The traffic through the Canadian canal was 2 percent of the total freight, 6 percent of the total registered tonnage and 60 percent of the total passengers carried; the amounts being 1,938,929 tons of freight, 4,242,662 tons register and 53,134 passengers. Compared with the season of 1945, there was a decrease of 79,091 tons of freight, or 4 percent and increases of 35,586 tons register, or 1 percent and 13,887 passengers, or 35 percent.

The Canadian canal opened April 8 and closed December 15, 1946; total time in operation during the season, 252 days.

General summary for American and Canadian canals.

Total tons, net register	67,590,408
Total freight carried—tons	91,586,895
Time Canadian canal operated—days	252
Time American canal operated—days	268
Average cost per lockage, American canal—dollars	67.23
Average cost per passage, American canal—dollars	53.44
Total number of registered vessels which used canals	587
Freight carried by—	
Registered vessels—tons	91,586,845
American vessels—percent	87
Canadian vessels—percent	13
Total number of passengers carried	[1] 87,871
Percentage of passengers carried by—	
American vessels—percent	66
Canadian vessels—percent	34

Table of weights and measures

Barley, 1 bushel	48 pounds.	Wood:	
Corn, 1 bushel	56 pounds.	Dry lumber, M feet b. m	1½ tons.
Flaxseed, 1 bushel	56 pounds.	Green lumber, M feet b. m	2 tons.
Oats:		Pulpwood, 1 cord, M feet b. m	2 tons.
American canal, 1 bushel	32 pounds.	Shingles, 10 M	1 ton.
Canadian canal, 1 bushel	34 pounds.	Petroleum products:	
Rye, 1 bushel	56 pounds.	Lubricating, 5 barrels	1 ton.
Wheat, 1 bushel	60 pounds.	Kerosene, 303 gallons	1 ton.
Flour, 10 barrels	1 ton.	Gasoline, 303 gallons	1 ton.
Automobiles, each	1¼ tons.	Fuel, 270 gallons	1 ton.

[1] Includes 6,232 non-commercial passengers.

EAST- AND WEST-BOUND TRAFFIC

East- and west-bound commerce passing both American and Canadian canals at Sault Ste. Marie, Michigan and Ontario, for the season of 1946

EAST-BOUND

Items		United States Canal	Canadian Canal	Total
Vessel passages	Number	7,496	1,483	8,979
Registered tonnage	Net	32,511,024	1,276,885	33,787,909
Passengers	Number	6,113	37,890	44,003
Freight	Short tons	71,310,632	1,303,658	72,614,290
Wood products:				
Lumber				
Shingles				
Pulpwood		622,252	165,766	788,018
Vegetable products:				
Flour		3,882	66,524	70,406
Wheat		6,954,892	402,253	7,357,145
Grain, other than wheat		1,720,351	435,378	2,155,729
Mineral products:				
Copper, lake				
Copper, electrolytic				
Zinc				
Iron ore		61,819,372		61,819,372
Scrap iron		76,224	3,360	79,584
Manufactured iron and steel		94,574	12,403	106,977
Stone [1]			12,270	12,270
General merchandise		19,085	205,704	224,789

WEST-BOUND

Vessel passages	Number	7,274	1,742	9,016
Registered tonnage	Net	30,836,722	2,965,777	33,802,499
Passengers	Number	28,624	15,244	43,868
Freight	Short tons	18,337,334	635,271	18,972,605
Mineral products:				
Coal, soft		15,106,337	135,206	15,241,543
Coal, hard		693,414	8,535	701,949
Iron ore		157,271		157,271
Manufactured iron and steel		49,778	9,104	58,882
Salt		56,532	11,474	68,006
Stone [1]		1,004,985	8,009	1,012,994
Petroleum products		1,084,624	159,458	1,244,082
Wood products:				
Pulpwood				
General merchandise		170,595	300,226	470,821
Automobiles		13,798	3,259	17,057

SUMMARY

Vessel passages	Number	14,770	3,225	17,995
Registered tonnage	Net	63,347,746	4,242,662	67,590,408
Passengers [2]	Number	34,737	53,134	87,871
Freight	Short tons	89,647,966	1,938,929	91,586,895

[1] Includes broken stone, gravel, and sand.
[2] Includes 6,232 non-commercial passengers.

COMPARATIVE TRAFFIC, YEARS 1945 AND 1946

Lake commerce through the canals at Sault Ste. Marie, Michigan and Ontario, for the seasons of 1945 and 1946

Items		Total traffic for—		Increase or decrease		
		Season 1945	Season 1946	Amount	Percent	
					Increase	Decrease
Vessel passages	Number	22,408	17,995	4,413		20
Propellers	Number	20,268	16,335	3,933		19
Barges, etc.	Number	849	613	236		28
Unregistered	Number	1,291	1,047	244		19
Registered tonnage	Net	86,932,007	67,590,408	19,341,599		22
Lockages	Number	17,474	14,446	3,028		17
Passengers	Number	46,044	87,871[1]	41,827	91	
Freight	Short tons	112,982,630	91,586,895	21,395,735		19
Wood products:						
Pulpwood		619,559	788,018	168,459	27	
Lumber		2,435	0	2,435		100
Shingles		0	0	0		
Vegetable products:						
Flour		108,330	70,406	37,924		35
Wheat		14,436,116	7,357,145	7,078,971		49
Grain, other than wheat		3,136,558	2,155,729	980,829		31
Mineral products:						
Copper, lake		0	0	0		
Copper, electrolytic		0	0	0		
Zinc		0	0	0		
Iron ore		77,815,433	61,976,643	15,838,790		20
Manufactured iron and steel		172,877	165,859	7,018		1
Scrap iron		152,679	79,584	73,095		48
Coal, soft		13,052,754	15,241,543	2,188,789	17	
Coal, hard		807,843	701,949	105,894		13
Salt		63,821	68,006	4,185	7	
Stone[2]		908,639	1,025,264	116,625	13	
Petroleum products		882,512	1,244,082	361,570	41	
General merchandise		821,356	695,610	125,746		15
Automobiles		1,718	17,057	15,339	893	

[1] Includes 6,232 non-commercial passengers.
[2] Includes broken stone, gravel, and sand.

Monthly registered and freight tonnage, season 1946

Month	Net registered tonnage of vessels			Freight carried		
	East-bound	West-bound	Total	East-bound	West-bound	Total
				Tons	*Tons*	*Tons*
March	17,937	32,632	50,569	0	66,421	66,421
April	752,932	1,056,052	1,808,984	1,358,475	537,862	1,896,337
May	2,582,846	2,729,076	5,311,922	5,411,389	865,078	6,276,467
June	4,293,508	4,441,970	8,735,478	9,555,574	2,748,481	12,304,055
July	5,471,350	5,357,431	10,829,281	12,150,055	2,809,148	14,959,203
August	4,920,849	5,082,367	10,003,216	10,974,087	3,024,622	13,998,709
September	5,096,866	5,087,994	10,184,860	11,154,429	3,136,923	14,291,352
October	5,522,029	5,338,101	10,860,130	11,697,878	3,184,714	14,882,592
November	4,433,850	4,457,314	8,891,164	8,924,839	2,542,026	11,466,865
December	695,342	219,562	914,904	1,387,564	57,330	1,444,894
Total	33,787,909	33,802,499	67,590,408	72,614,290	18,972,605	91,586,895

INTERLAKE TRAFFIC

Freight between Lake Superior and each of the other lakes, classified with reference to American, Canadian, and other foreign vessels, season of 1946

Freight carried by—	Ports		East-bound from Lake Superior to—				Total
	From—	To—	Lake Michigan	Lake Huron	Lake Erie	Lake Ontario	
			Tons	*Tons*	*Tons*	*Tons*	*Tons*
American vessels	American	American	14,655,326	5,541	47,799,719	284,619	62,745,205
Do	do	Canadian		16,200			16,200
Do	Canadian	American	117,791		749,781		867,572
Do	do	Canadian		75,871	249,391		325,262
Canadian vessels	do	do		3,124,305	1,434,339	1,236,048	5,794,692
Do	do	American	510,080	640	1,062,011		1,572,731
Do	American	Canadian			138,903	679,511	818,414
Do	do	American			474,214		474,214
Total eastbound			15,283,197	3,222,557	51,908,358	2,200,178	72,614,290

Freight carried by—	Ports		West-bound to Lake Superior from—				Total
	From—	To—	Lake Michigan	Lake Huron	Lake Erie	Lake Ontario	
			Tons	*Tons*	*Tons*	*Tons*	*Tons*
American vessels	American	American	838,478	748,044	11,890,838	20,295	13,497,655
Do	do	Canadian	951,451	287,218	1,073,434		2,312,103
Do	Canadian	do			55,564	2,100	57,664
Canadian vessels	do	do		46,434	334,454	262,434	643,322
Do	American	do	263,723	1,748	2,187,179		2,452,650
Do	Canadian	American			100	9,111	9,211
Total westbound			2,053,652	1,083,444	15,541,569	293,940	18,972,605
Grand total			17,336,849	4,306,001	67,449,927	2,494,118	91,586,895

Percentage of freight carried by American, Canadian, and other foreign vessels

Year	Freight carried by—		Origin of freight		Year	Freight carried by—		Origin of freight	
	American vessels	Canadian and other foreign vessels	American	Canadian		American vessels	Canadian and other foreign vessels	American	Canadian
	Percent	*Percent*	*Percent*	*Percent*		*Percent*	*Percent*	*Percent*	*Percent*
1887 [1]	93	7			1917	94	6	92	8
1888	94	6			1918	94	6	96	4
1889	96	4			1919	93	7	94	6
1890	96	4			1920	94	6	94	6
1891	96	4			1921	89	11	86	14
1892	96	4			1922	92	8	86	14
1893	96	4			1923	92	8	90	10
1894	96	4	Not separated prior to 1902.		1924	91	9	88	12
1895	96	4			1925	93	7	88	12
1896	96	4			1926	91	9	88	12
1897	96	4			1927	91	9	89	11
1898	98	2			1928	90	10	86	14
1899	97	3			1929	93	7	92	8
1900	97	3			1930	93	7	90	10
1901	96	4			1931	88	12	85	15
1902	96	4	95	5	1932	70	30	67	33
1903	94	6	93	7	1933	84	16	84	16
1904	94	6	95	5	1934	86	14	85	15
1905	95	5	96	4	1935	86	14	86	14
1906	95	5	96	4	1936	88	12	90	10
1907	95	5	96	4	1937	91	9	94	6
1908	93	7	94	6	1938	80	20	85	16
1909	94	6	95	5	1939	86	14	87	13
1910	94	6	95	5	1940	89	11	91	9
1911	93	7	93	7	1941	88	12	91	9
1912	94	6	93	7	1942	88	12	93	7
1913	94	6	91	9	1943	89	11	91	9
1914	91	9	92	8	1944	89	11	89	11
1915	94	6	91	9	1945	87	13	87	13
1916	94	6	91	9	1946	87	13	90	10

[1] No record prior to 1887.

Statement of commerce through both American and Canadian canals at Sault

Year	Date of opening canal	Date of closing canal	Class and tonnage of vessels					Passenger and freight traffic			
			Passages by—			Total passages	Net registered tonnage	Passengers	Coal and coke	Flour	Wheat
			Steamers	Other registered craft	Unregistered craft						
									Tons	*Barrels*	*Bushels*
1855	June 18	Nov. 23	149	44	.....	193	106,296	8,295	1,414	10,289	.....
1856	May 4	Nov. 28	178	112	.....	290	101,458	7,992	3,968	17,686	.....
1857	May 9	Nov. 30	184	192	.....	376	180,820	6,650	5,298	18,515	.....
1858	Apr. 18	Nov. 20	224	182	.....	406	219,819	9,230	4,118	13,782	.....
1859	May 3	Nov. 28	258	411	.....	669	352,642	.....	8,884	39,459	74
1860	May 11	Nov. 26	337	579	.....	916	403,657	.....	.....	50,250	.....
1861	May 3	Nov. 14	296	242	.....	538	276,639	8,816	11,507	22,743	223
1862	Apr. 27	Nov. 27	295	543	.....	838	359,612	8,468	11,346	17,291	.....
1863	Apr. 28	Nov. 24	305	952	.....	1,257	507,434	18,281	7,805	31,975	.....
1864	May 2	Dec. 4	366	1,045	.....	1,411	571,438	16,985	11,282	33,937	.....
1865	May 1	Dec. 3	395	602	.....	997	409,062	19,777	.....	34,985	.....
1866	May 5	do	453	555	.....	1,008	458,530	14,067	19,915	33,603	.....
1867	May 4	do	466	839	.....	1,305	556,899	15,120	22,927	28,345	.....
1868	May 2	do	338	817	.....	1,155	432,563	10,590	25,814	27,372	.....
1869	May 4	Nov. 29	399	939	.....	1,338	524,885	17,657	27,850	32,007	.....
1870	Apr. 29	Dec. 1	431	1,397	.....	1,828	690,826	17,153	15,952	33,548	49,700
1871	May 8	Nov. 29	573	1,064	.....	1,637	752,101	15,859	46,798	26,040	1,376,705
1872	May 11	Nov. 26	792	1,212	.....	2,004	914,735	25,830	80,815	136,411	567,134
1873	May 5	Nov. 18	968	1,519	.....	2,517	1,204,446	30,966	96,780	172,692	2,119,997
1874	May 12	Dec. 2	901	833	.....	1,734	1,070,857	22,958	61,124	179,855	1,120,015
1875	do	do	1,464	569	.....	2,033	1,259,534	19,685	101,260	309,991	1,213,788
1876	May 8	Nov. 26	1,733	684	.....	2,417	1,541,676	20,286	124,960	390,577	1,971,549
1877	May 2	Nov. 30	1,050	1,401	.....	2,451	1,439,216	21,800	91,575	355,117	1,349,738
1878	Apr. 8	Dec. 3	1,476	1,091	.....	2,567	1,667,136	20,394	91,856	344,599	1,872,940
1879	May 2	do	1,618	1,403	100	3,121	1,677,071	18,979	110,704	451,154	2,603,666
1880	Apr. 28	Nov. 15	1,735	1,718	50	3,503	1,734,890	25,766	170,501	523,860	2,105,920
1881	May 7	Dec. 5	2,117	1,706	181	4,004	2,092,757	24,671	295,647	605,453	3,456,965
1882	Apr. 21	Dec. 3	2,739	1,663	372	4,774	2,468,088	29,256	430,184	344,044	3,728,856
1883	May 2	Dec. 11	2,620	1,458	237	4,315	2,042,259	39,130	714,444	687,031	5,900,473
1884	Apr. 23	Dec. 10	3,609	1,709	371	5,689	2,997,837	54,214	706,379	1,248,243	11,985,791
1885	May 6	Dec. 2	3,354	1,689	337	5,380	3,035,937	36,147	894,991	1,440,093	15,274,213
1886	Apr. 25	Dec. 4	4,584	2,534	306	7,424	4,219,397	27,088	1,009,999	1,759,365	18,991,485
1887	May 1	Dec. 2	5,968	2,562	825	9,355	4,897,598	32,668	1,352,987	1,572,735	23,096,520
1888	May 7	Dec. 4	5,305	2,009	489	7,803	5,130,659	25,558	2,105,041	2,190,725	18,596,351
1889	Apr. 15	do	6,501	2,635	443	9,579	7,221,935	25,712	1,629,197	2,228,707	16,231,854
1890	Apr. 20	Dec. 3	7,268	2,872	417	10,557	8,454,435	24,856	2,176,925	3,239,104	16,217,370
1891	Apr. 27	Dec. 7	7,339	2,405	447	10,191	8,400,685	26,190	2,507,532	3,780,143	38,816,572
1892	Apr. 18	Dec. 6	8,737	3,324	519	12,580	10,647,203	25,896	2,904,266	5,418,135	40,994,780
1893	May 1	Dec. 5	8,379	2,955	674	12,008	8,949,754	18,869	3,008,120	7,420,674	43,481,652
1894	Apr. 17	Dec. 6	10,208	3,676	607	14,491	13,110,366	27,236	2,797,184	8,965,773	34,869,483
1895	Apr. 25	Dec. 11	12,495	4,790	671	17,956	16,806,781	31,656	2,574,362	8,902,302	46,218,250
1896	Apr. 21	Dec. 8	13,404	4,391	820	18,615	17,249,418	37,066	3,023,340	8,882,858	63,256,463
1897	do	Dec. 14	12,029	4,438	704	17,171	17,619,933	40,213	3,039,172	8,921,143	55,924,302
1898	Apr. 11	do	12,461	4,449	851	17,761	18,622,754	43,426	3,776,450	7,778,043	62,339,996
1899	Apr. 26	Dec. 20	14,378	4,776	1,101	20,255	21,958,347	49,082	3,940,887	7,114,147	58,397,335
1900	Apr. 19	Dec. 16	14,426	4,004	1,022	19,452	22,315,834	58,555	4,486,977	6,760,688	40,489,302
1901	Apr. 20	Dec. 21	14,372	4,482	1,187	20,041	24,626,976	59,663	4,593,136	7,634,350	52,812,636
1902	Apr. 1	Dec. 20	17,069	4,368	1,222	22,659	31,955,582	59,377	4,812,478	8,910,240	76,730,965
1903	Apr. 2	Dec. 15	14,027	3,569	1,000	18,596	27,736,444	55,175	6,937,633	7,093,380	61,384,552
1904	Apr. 30	Dec. 26	12,188	2,994	938	16,120	24,364,138	37,695	6,454,869	4,710,538	49,928,869
1905	Apr. 10	Dec. 20	17,197	3,263	1,219	21,679	36,617,699	54,204	6,509,056	5,772,719	68,321,288
1906	Apr. 13	Dec. 22	18,138	2,817	1,200	22,155	41,098,324	63,033	8,739,630	6,495,350	84,271,358
1907	Apr. 22	Dec. 15	17,245	2,303	889	20,437	44,087,974	62,758	11,400,095	6,524,770	98,135,775
1908	Apr. 21	do	12,553	1,355	1,273	15,181	31,091,730	53,287	9,902,460	5,704,375	106,041,873
1909	Apr. 20	Dec. 16	16,463	1,787	954	19,204	46,751,717	59,948	9,940,026	7,094,175	113,253,561
1910	Apr. 12	Dec. 15	17,674	1,890	1,335	20,899	49,856,123	66,933	13,513,727	7,567,789	86,259,974
1911	Apr. 22	Dec. 16	15,160	1,681	1,832	18,673	41,653,488	79,951	15,332,876	7,246,495	97,141,911
1912	Apr. 24	Dec. 19	19,076	1,805	1,897	22,778	56,736,807	66,877	14,931,594	8,652,153	174,086,456
1913	Apr. 14	Dec. 18	19,789	1,992	2,014	23,795	57,989,715	77,194	18,622,938	10,212,667	204,821,507
1914	Apr. 20	Dec. 17	14,994	1,682	2,041	18,717	41,986,339	59,801	14,487,221	9,715,085	150,284,095
1915	Apr. 13	Dec. 20	17,699	1,884	1,650	21,233	56,399,147	50,336	13,357,058	8,436,937	255,481,558
1916	Apr. 18	Dec. 19	21,606	2,461	1,340	25,407	69,824,463	54,922	16,123,119	10,239,841	226,063,315
1917	Apr. 24	Dec. 17	19,569	1,943	1,373	22,885	65,307,233	38,339	18,298,853	8,449,949	185,899,449
1918	Apr. 20	do	17,067	1,634	1,909	20,610	61,100,244	34,990	17,981,610	8,228,844	122,718,146
1919	Apr. 10	Dec. 15	14,866	1,218	1,503	17,587	50,089,090	56,992	13,874,951	8,087,554	113,734,848
1920	Apr. 19	Dec. 26	16,336	1,354	1,157	18,847	58,194,083	68,451	14,156,259	7,477,533	143,456,487
1921	Apr. 7	Dec. 24	10,779	538	1,530	12,847	32,184,240	66,621	14,763,155	10,217,305	197,715,010
1922	Apr. 17	do	15,448	818	1,117	17,383	52,595,857	59,043	9,461,018	9,382,613	275,615,288

Ste. Marie, Michigan and Ontario, for each year from first opening in 1855

Passenger and freight traffic											
Grain (other than wheat)	Manufactured and pig iron	Salt	Copper and zinc [1]	Iron ore	Wood products	Silver ore and bullion	Stone	General merchandise	Automobiles	Total freight	Year
Bushels	*Tons*	*Tons*	*Tons* Copper	*Tons*	*M ft. b. m.*	*Tons*	*Tons*	*Tons*	*No.*	*Tons*	
.....	1,445	29	3,196	1,447	127	.....	.....	5,690	.....	14,503	1855
82,060	2,272	154	5,977	11,597	433	.....	.....	5,538	.....	33,817	1856
40,637	4,426	168	4,400	26,185	680	.....	.....	7,140	.....	51,607	1857
21,000	3,031	183	6,944	31,035	188	.....	.....	9,587	.....	57,002	1858
71,738	7,172	411	7,269	65,769	766	.....	.....	25,280	.....	122,056	1859
133,437	1,446	.....	9,000	120,000	.....	.....	.....	14,915	.....	153,721	1860
76,830	4,904	452	7,645	44,837	664	.....	.....	12,972	.....	87,847	1861
59,062	7,023	372	6,881	113,014	240	.....	.....	19,355	.....	161,675	1862
78,480	7,939	226	1,044	181,567	1,414	.....	.....	30,213	.....	236,780	1863
143,660	9,234	266	5,331	213,753	2,012	.....	.....	33,477	.....	284,350	1864
.....	7,400	476	9,935	147,459	822	.....	.....	11,226	.....	181,638	1865
229,926	14,484	668	9,550	152,102	660	.....	.....	32,310	.....	239,457	1866
249,031	23,141	797	10,585	222,861	1,177	.....	.....	33,632	.....	325,357	1867
285,123	23,991	694	12,222	191,939	1,404	.....	.....	31,843	.....	299,175	1868
323,501	25,604	887	18,662	239,368	1,423	.....	.....	41,813	.....	368,326	1869
304,077	42,049	1,663	11,301	409,850	814	92	4,560	40,342	.....	539,883	1870
308,823	57,216	5,430	14,562	327,461	1,098	464	5,528	74,227	.....	585,583	1871
445,774	100,293	6,404	14,986	383,105	1,853	306	5,213	109,663	.....	746,258	1872
309,645	47,996	4,400	15,947	504,121	2,191	580	2,218	123,398	.....	888,432	1873
149,999	33,713	6,635	15,345	427,658	686	443	401	55,312	.....	655,138	1874
272,580	56,649	6,598	18,396	493,408	4,498	847	2,978	70,128	.....	833,465	1875
424,468	67,409	7,000	25,756	609,752	17,820	985	2,102	91,119	.....	1,073,570	1876
378,063	42,705	9,478	16,767	568,082	15,373	1,020	2,506	64,201	.....	912,639	1877
264,674	18,116	9,528	22,529	555,750	34,889	768	2,754	69,007	.....	937,351	1878
973,948	43,771	13,837	22,309	540,075	43,439	324	2,226	81,279	.....	1,050,784	1879
2,553,436	54,302	11,687	21,753	677,073	48,635	66	2,283	100,849	.....	1,321,906	1880
367,838	87,830	9,885	29,488	748,131	58,877	.....	1,400	129,031	.....	1,567,741	1881
473,129	92,870	26,492	25,409	987,060	82,783	22	5,428	172,167	.....	2,029,521	1882
776,552	109,910	10,635	31,024	791,732	87,131	814	2,405	191,571	.....	2,267,105	1883
517,103	72,428	21,721	36,062	1,136,071	122,389	9,731	6,047	207,173	.....	2,874,557	1884
422,981	60,842	20,453	31,927	1,235,122	127,984	3,669	8,189	184,963	.....	3,256,628	1885
715,373	115,208	23,802	38,627	2,087,809	138,688	2,009	9,449	230,726	.....	4,527,759	1886
775,166	74,919	30,736	34,886	2,497,713	165,226	350	13,401	344,586	.....	5,494,649	1887
2,022,308	63,703	31,565	28,960	2,570,517	240,372	3,385	33,541	345,854	.....	6,411,423	1888
2,133,245	57,561	25,238	33,456	4,095,855	315,554	5,947	33,538	312,410	.....	7,516,022	1889
2,044,384	116,327	26,915	43,729	4,774,768	361,929	3,432	47,973	371,294	.....	9,041,213	1890
1,032,104	69,741	35,179	69,190	3,560,213	366,305	1,731	44,080	417,093	.....	8,888,759	1891
1,666,690	101,520	41,361	64,993	4,901,132	512,844	1,930	39,698	459,146	.....	11,214,333	1892
2,405,344	89,452	34,310	87,530	4,014,556	588,545	2,470	19,426	415,180	.....	10,796,572	1893
1,545,008	60,659	35,619	99,573	6,548,876	722,788	412	21,417	451,185	.....	13,195,860	1894
8,328,694	100,337	40,439	107,452	8,062,209	740,700	100	23,876	463,308	.....	15,062,580	1895
27,448,071	121,872	35,553	116,872	7,909,250	684,986	240	17,731	520,851	.....	16,239,061	1896
24,889,688	135,164	42,701	122,324	10,633,715	805,612	5	6,249	579,048	.....	18,982,755	1897
26,078,384	250,170	45,021	124,226	11,706,960	895,485	.....	4,670	623,146	.....	21,234,664	1898
30,000,935	214,585	47,130	120,090	15,328,240	1,038,057	487	39,063	587,484	.....	25,255,810	1899
16,174,659	135,585	49,259	131,066	16,443,568	909,651	110	48,902	541,397	.....	25,643,073	1900
24,760,547	206,443	66,181	98,601	18,090,618	1,072,124	.....	46,584	558,041	.....	28,403,065	1901
27,740,822	198,152	65,354	120,612	24,277,555	1,091,471	.....	38,919	740,100	.....	35,961,146	1902
32,095,646	193,267	67,223	112,877	21,654,898	1,003,192	1	21,300	659,839	.....	34,674,437	1903
33,030,992	229,985	54,193	109,605	19,635,797	923,280	1,356	27,093	732,009	.....	31,546,106	1904
39,229,553	237,696	62,461	106,520	31,332,637	966,806	41	10,899	836,583	.....	44,270,680	1905
54,343,155	391,105	70,920	107,633	35,357,042	900,631	.....	6,222	1,134,851	.....	51,751,080	1906
43,463,338	307,941	68,626	89,959	39,594,944	649,320	.....	898	1,022,654	.....	58,217,214	1907
43,458,583	289,308	81,337	101,735	24,650,340	453,761	.....	1,019	842,901	.....	41,390,557	1908
46,519,451	522,281	96,303	127,212	40,014,978	552,380	.....	1,784	1,140,344	.....	57,895,149	1909
39,245,485	444,669	78,448	148,070	41,603,634	603,101	.....	9,635	1,411,549	.....	62,363,218	1910
40,782,609	412,269	98,229	132,481	30,731,235	558,513	Petroleum products	5,342	1,385,918	.....	53,477,216	1911
69,024,546	654,892	98,415	116,954	46,303,423	667,542		2,282	1,664,783	.....	72,472,676	1912
112,230,369	402,912	108,997	85,378	48,109,353	599,586		6,181	1,770,860	.....	79,718,344	1913
68,338,072	239,683	115,864	91,764	31,413,765	452,148	.....	.....	1,317,304	.....	55,369,934	1914
64,786,870	211,781	104,572	156,436	45,213,604	456,451	*Tons*	.....	1,595,398	.....	71,290,304	1915
93,189,561	202,194	109,000	126,043	63,452,107	341,352	227,679	517,476	903,865	.....	91,888,219	1916
67,415,795	102,082	84,656	118,812	61,374,090	350,609	262,489	571,001	658,365	.....	89,813,898	1917
30,800,621	38,767	81,007	86,078	60,551,296	296,919	334,134	402,009	494,437	.....	85,680,327	1918
52,734,345	117,713	93,893	58,409	46,922,792	244,426	387,023	371,170	542,178	.....	68,235,542	1919
51,630,135	76,194	99,208	51,545	56,780,498	192,854	353,489	563,271	556,110	.....	79,282,496	1920
95,694,264	39,035	62,313	31,533	22,595,323	206,306	301,633	493,447	600,163	.....	48,259,254	1921
119,225,398	68,500	73,685	57,941	42,227,338	214,112	191,182	656,763	880,689	.....	66,067,258	1922

[1] Copper and zinc; 1940: Copper, electrolytic; 35,093 tons; zinc, 44,914 tons.

Statement of commerce through both American and Canadian canals at Sault Ste.

Year	Date of opening canal	Date of closing canal	Class and tonnage of vessels					Passenger and freight traffic			
			Passages by—			Total passages	Net registered tonnage	Passengers	Coal and coke	Flour	Wheat
			Steamers	Other registered craft	Unregistered craft				*Tons*	*Barrels*	*Bushels*
1923	May 1	Dec. 26	19,743	1,327	905	21,975	68,546,412	56,384	18,395,311	10,485,521	282,985,776
1924	Apr. 19	Dec. 19	16,064	969	883	17,866	57,290,232	53,776	13,565,953	10,996,101	289,722,607
1925	Apr. 8	Dec. 17	18,718	1,091	841	20,650	69,239,520	56,956	12,874,336	9,289,320	292,817,942
1926	Apr. 29	Dec. 18	18,949	1,324	625	20,898	71,290,862	52,704	14,439,101	9,797,310	271,997,488
1927	Apr. 12	...do.....	17,096	973	690	18,759	64,325,362	55,115	17,107,500	9,383,440	330,898,158
1928	May 1	Dec. 16	17,757	1,042	487	19,286	66,835,763	56,053	14,869,907	9,282,938	406,759,712
1929	Apr. 13	Dec. 14	18,036	1,217	541	19,794	68,239,570	54,415	15,832,369	9,163,920	225,421,673
1930	Apr. 21	Dec. 15	14,651	1,016	1,151	16,818	54,828,769	45,303	14,058,711	8,531,860	243,927,016
1931	Apr. 10	...do.....	10,935	748	1,373	13,056	35,917,044	33,606	10,402,935	8,575,915	189,090,091
1932	Apr. 17	Dec. 16	7,102	335	1,242	8,679	17,250,905	20,241	7,374,881	7,116,400	207,224,044
1933	Apr. 19	Dec. 14	10,607	253	1,240	12,100	34,370,300	20,943	8,266,097	7,118,520	198,698,290
1934	Apr. 29	Dec. 15	10,144	378	877	11,399	35,794,600	33,636	10,408,029	6,162,297	173,033,726
1935	Apr. 16	Dec. 16	11,754	409	797	12,960	41,566,253	32,937	9,161,730	6,840,720	179,603,288
1936	Apr. 28	Dec. 17	15,312	617	686	16,615	55,769,283	40,785	12,486,283	6,566,427	162,678,395
1937	Apr. 8	Dec. 15	18,343	816	823	19,982	68,391,220	47,263	13,092,888	6,289,360	117,229,103
1938	Apr. 12	Dec. 16	9,887	495	819	11,201	30,147,671	41,552	9,113,980	6,548,330	174,161,741
1939	Apr. 26	Dec. 15	15,493	493	1,089	17,075	56,627,786	40,501	9,036,306	7,486,620	250,521,698
1940	Apr. 11	Dec. 15	19,131	805	901	20,837	72,651,395	53,129	10,269,860	6,905,920	224,182,345
1941	Apr. 1	Dec. 15	23,786	1,151	928	25,865	89,046,612	89,824	12,309,058	6,628,980	296,878,862
1942	Mar. 22	Dec. 17	24,198	1,434	1,252	26,884	93,632,469	42,845	13,210,834	3,091,710	225,591,117
1943	Apr. 19	Dec. 15	22,037	1,383	1,531	24,951	86,598,973	40,292	15,881,954	1,262,680	288,480,417
									Tons	*Tons*	
1944	Mar. 31	Jan. 14, 1945	21,081	883	1,539	23,503	89,938,138	47,666	16,432,258	100,979	12,226,567
1945	Mar. 25	Dec. 15	20,268	849	1,291	22,408	87,932,007	46,044	13,960,597	108,330	14,436,116
1946	Mar. 25	Dec. 17	16,335	613	1,047	17,995	67,590,408	[2]87,871	15,943,492	70,406	7,357,145

[2] Includes 6,232 non-commercial passengers.

Marie, Michigan and Ontario, for each year from first opening in 1855—Continued

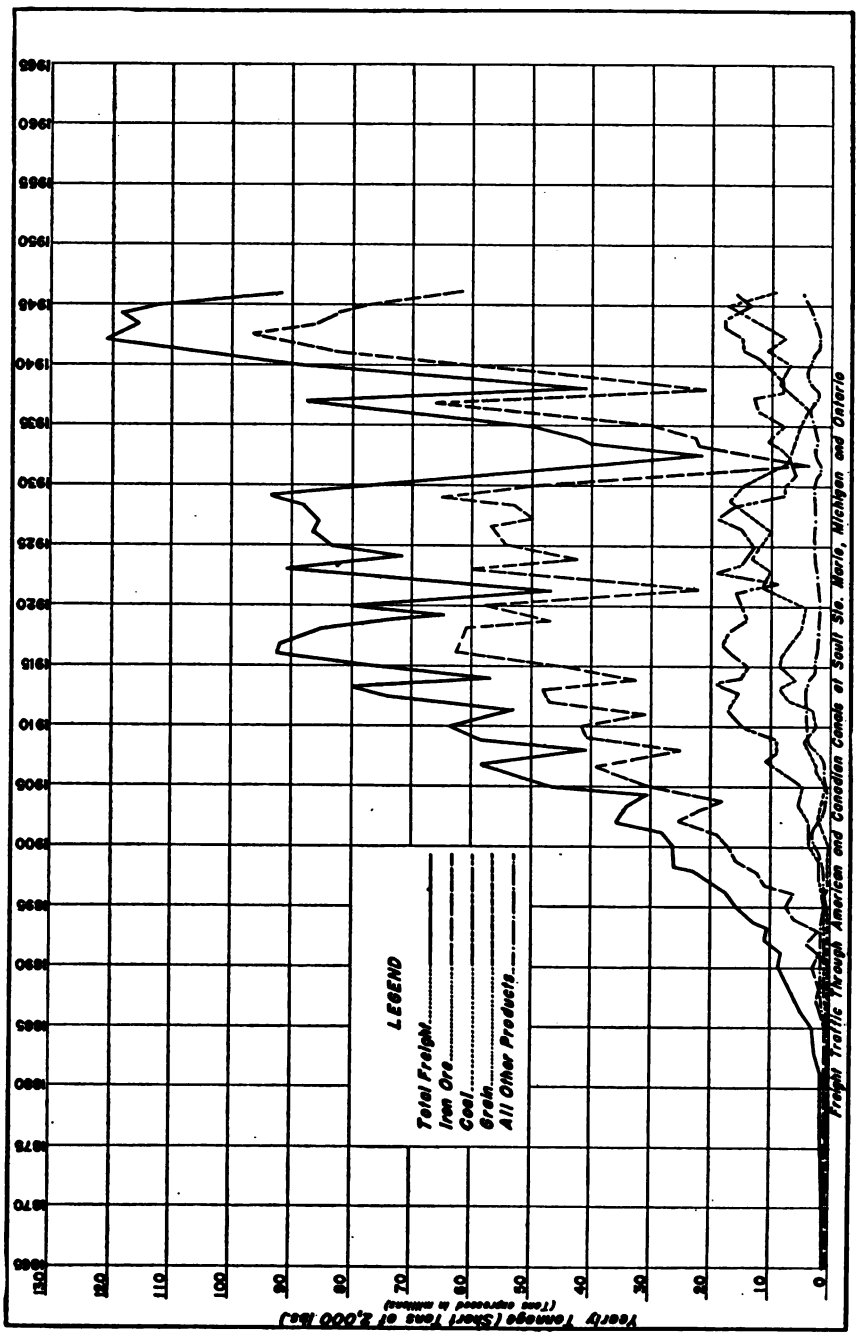
Passenger and freight traffic												
Grain (other than wheat)	Manufactured and pig iron	Salt	Copper and zinc	Iron ore	Wood products	Petroleum products	Stone	General merchandise	Automobiles	Total freight	Year
Bushels	*Tons*	*Tons*	*Tons*	*Tons*	*Mft.b.m.*	*Tons*	*Tons*	*Tons*	*No.*	*Tons*	
			Copper								
87,523,341	99,462	70,465	60,082	59,356,943	189,337	171,641	697,255	657,495	------	91,379,658	1923
165,476,906	109,663	62,496	58,308	42,492,197	273,943	172,782	791,219	623,356	------	72,037,390	1924
149,927,317	147,452	58,036	63,494	53,874,364	186,486	222,575	667,033	707,141	------	81,875,108	1925
100,269,792	215,713	59,748	58,715	57,649,402	173,075	252,912	581,945	717,679	------	85,679,087	1926
119,519,549	194,274	59,181	67,422	50,098,068	152,608	256,765	657,878	802,646	------	83,354,064	1927
131,039,303	303,478	60,808	85,525	53,321,452	187,205	321,098	628,311	868,140	------	86,992,997	1928
68,127,000	310,563	47,475	64,354	64,917,703	165,435	396,970	586,214	926,747	------	92,622,017	1929
55,433,921	151,694	54,087	34,532	47,050,854	150,986	309,361	646,496	866,110	------	72,897,752	1930
56,303,180	126,553	42,521	30,295	24,259,899	143,209	332,614	535,901	821,823	------	44,613,671	1931
39,615,921	48,755	23,490	17,964	3,607,119	77,664	489,584	212,369	708,532	------	20,480,873	1932
39,821,163	240,870	32,106	47,310	22,226,025	236,622	487,486	219,956	759,963	------	40,307,893	1933
	Structural steel and scrap iron		Copper and zinc								
46,498,900	183,901	25,010	30,849	22,945,299	169,529	527,916	157,856	846,844	------	42,248,131	1934
43,106,702	290,223	40,819	53,027	29,283,943	193,757	584,549	502,417	1,022,526	------	48,293,308	1935
50,075,772	367,323	41,682	55,980	47,081,669	204,789	562,823	673,364	1,212,473	------	69,528,600	1936
50,191,831	498,681	45,006	27,330	65,616,328	270,071	624,829	712,438	1,136,057	42,278	87,633,699	1937
90,264,301	175,829	48,459	42,927	20,054,598	268,448	758,419	390,436	893,447	18,515	40,042,739	1938
86,585,835	494,318	53,438	79,773	46,803,691	316,924	1,012,863	524,841	989,146	22,307	69,850,262	1939
			Copper Lake								
62,630,802	625,490	48,845	27,655	66,226,030	390,673	1,042,931	693,838	1,135,616	29,447	89,858,319	1940
61,616,382	531,922	50,406	39,168	83,151,024	398,390	1,014,215	871,921	1,196,786	28,148	111,121,684	1941
55,643,263	415,929	46,280	22,758	94,326,578	400,342	773,915	1,229,784	972,350	541	120,199,479	1942
97,926,886	346,712	59,224	------	85,583,376	293,858	814,967	1,023,608	583,191	325	115,851,903	1943
Tons					*Tons*				*Tons*		
2,505,508	316,630	57,579	------	82,806,592	431,602	770,454	724,122	864,338	1,402	117,238,031	1944
3,136,558	325,556	63,821	------	77,815,433	621,994	882,512	908,639	821,356	1,718	112,982,630	1945
2,155,729	245,443	68,006	------	61,976,643	788,018	1,244,082	1,025,264	[3] 695,610	17,057	91,586,895	1946

[3] Includes 493 net tons of automobiles, 4,096 net tons coal, 1,500 net tons of benzine, 5,075 net tons of benzol, 2,625 net tons of gasoline, 250 net tons of kerosene and 2,014 net tons of fuel oil East-bound; 2,940 net tons of corn, 60 net tons of flour, and 300 net tons of wood products West-bound.

FREIGHT TRAFFIC THROUGH AMERICAN AND CANADIAN CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO

Year	West-bound	East-bound	Total	Year	West-bound	East-bound	Total
	Tons	*Tons*	*Tons*		*Tons*	*Tons*	*Tons*
1880[1]	436,229	885,677	1,321,906	1914	15,899,271	39,470,663	55,369,934
1881	445,111	1,122,630	1,567,741	1915	14,921,062	56,369,242	71,290,304
1882	691,494	1,338,027	2,029,521	1916	17,739,801	74,148,418	91,888,219
1883	989,822	1,277,283	2,267,105	1917	19,767,413	70,046,485	89,813,898
1884	965,267	1,909,290	2,874,557	1918	19,394,775	66,285,552	85,680,327
1885	1,121,562	2,135,066	3,256,628	1919	15,404,137	52,831,205	68,235,542
1886	1,348,716	3,179,043	4,527,759	1920	15,818,493	63,464,003	79,282,496
1887	1,744,213	3,750,436	5,494,649	1921	16,146,006	32,113,248	48,259,254
1888	2,488,078	3,923,345	6,411,423	1922	11,047,035	55,020,223	66,067,258
1889	1,963,381	5,552,641	7,516,022	1923	20,143,788	71,235,870	91,379,658
1890	2,612,375	6,428,838	9,041,213	1924	15,196,635	56,840,755	72,037,390
1891	2,919,068	5,969,691	8,888,759	1925	14,570,334	67,304,774	81,875,108
1892	3,334,795	7,879,538	11,214,333	1926	16,149,031	69,530,056	85,679,087
1893	3,394,387	7,402,185	10,796,572	1927	18,961,312	64,392,752	83,354,064
1894	3,138,534	10,057,326	13,195,860	1928	16,827,096	70,165,901	86,992,997
1895	3,032,923	12,029,657	15,062,580	1929	17,782,001	74,840,016	92,622,017
1896	3,501,999	12,737,062	16,239,061	1930	15,831,236	57,066,516	72,897,752
1897	3,572,630	15,410,125	18,982,755	1931	11,926,742	32,686,929	44,613,671
1898	4,434,856	16,799,808	21,234,664	1932	8,659,168	11,821,705	20,480,873
1899	4,636,276	20,619,534	25,255,810	1933	9,764,208	30,543,685	40,307,893
1900	5,110,580	20,532,493	25,643,073	1934	11,793,423	30,454,708	42,248,131
1901	5,315,323	23,087,742	28,403,065	1935	11,101,521	37,191,787	48,293,308
1902	5,685,157	30,275,989	35,961,146	1936	14,686,113	54,842,487	69,528,600
1903	7,742,199	26,932,238	34,674,437	1937	15,502,315	72,131,384	87,633,699
1904	7,332,204	24,213,902	31,546,106	1938	10,990,018	29,052,721	40,042,739
1905	7,491,942	36,778,738	44,270,680	1939	11,367,531	58,482,731	69,850,262
1906	10,166,175	41,584,905	51,751,080	1940	12,796,391	77,061,728	89,858,319
1907	12,672,895	45,544,319	58,217,214	1941	15,108,346	96,013,338	111,121,684
1908	11,009,799	30,380,758	41,390,557	1942	15,954,849	104,244,630	120,199,479
1909	11,516,063	46,379,086	57,895,149	1943	18,198,812	97,653,091	115,851,903
1910	15,229,509	47,133,709	62,363,218	1944	18,521,736	98,716,295	117,238,031
1911	17,047,817	36,429,399	53,477,216	1945	16,253,893	96,728,737	112,982,630
1912	17,094,989	55,377,687	72,472,676	1946	18,972,605	72,614,290	91,586,895
1913	20,512,491	59,205,853	79,718,344				

[1] No record separating east-bound and west-bound previous to 1880.


Freight Traffic Through American and Canadian Canals at Sault Ste. Marie, Michigan and Ontario
Yearly Tonnage (Short Tons of 2,000 lbs.)
(Tons expressed in millions)
LEGEND
Total Freight
Iron Ore
Coal
Grain
All Other Products
0
10
20
30
40
50
60
70
80
90
100
110
120
1865
1870
1875
1880
1885
1890
1895
1900
1905
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965

VESSEL DATA

Vessel Classification, showing passages, passengers, and registered and freight tonnage during the season of 1946

AMERICAN VESSELS

Class	Number of registered vessels	Passages	Tonnage		Passengers
			Registered	Freight	
Steamers	317	11,484	1,508,504	77,930,593	15,674
Motor vessels	46	883	21,538	925,704	42,142
Sailing and unrigged	11	229	32,790	965,314	
Unregistered		919		50	585
Total	574	13,515	1,562,832	79,821,662	58,401

CANADIAN VESSELS

Steamers	154	3,573	290,440	10,881,105	29,459
Motor vessels	28	393	9,310	120,568	
Sailing and unrigged	29	384	50,748	763,561	3
Unregistered		128			8
Total	211	4,478	350,498	11,765,234	29,470

OTHER FOREIGN VESSELS

Steamers	2	2	248		
Motor vessels					
Sailing and unrigged					
Unregistered					
Total	2	2	248		
Grand total	587	[1] 17,995	1,913,578	91,586,895	[2] 87,871

[1] Of the 17,995 passages for the season 1,699 were by 73 vessels under 100 tons registered, with an average register of 22 tons. The total freight carried by such craft amounted to 1,229 tons.

[2] Includes 6,232 non-commercial passengers.

Average and maximum dimensions of, and percentage of total freight carried by, vessels of different classes, season of 1946

Class	Passages of vessels by class	Aggregate freight carried by vessels by class	Average cargo	Percentage of total freight carried by class	Registered vessels using canal	Aggregate registered tonnage	Average registered tonnage	Average length	Maximum length	Maximum beam
Tons net register between—	*Number*	*Tons*	*Tons*		*Number*	*Tons*	*Tons*	*Feet*	*Feet*	*Feet*
1 and 1,000	2,372	164,730	1,257	0	119	20,562	173	95	261	56.6
1,000 and 2,000	1,209	1,877,859	2,230	2	85	110,337	1,298	264	356	51.2
2,000 and 3,000	1,669	5,807,050	5,063	6	64	172,860	2,701	390	476	60.3
3,000 and 4,000	2,561	12,702,329	6,964	14	84	289,530	3,447	441	526	56.2
4,000 and 5,000	2,311	15,936,200	9,985	18	69	318,999	4,623	517	602	60.2
5,000 and 6,000	2,483	17,713,671	11,555	19	70	381,566	5,451	553	605	60.3
6,000 and 7,000	4,175	35,656,637	14,686	39	91	582,668	6,403	608	640	67.0
7,000 and over	168	1,728,369	15,571	2	5	37,056	7,411	628	638	70.2
Unregistered	1,047	50	50	0						
Total	17,995	91,586,895		100	587	1,913,578				

Dimensions of registered vessels, average and maximum, classified by maximum freight cargoes

Freight-tons in largest cargo	Number of vessels	Length			Beam			Actual draft		
		Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average
No cargoes	102	315	32	89	56.6	8.7	19.2	17.0	2.0	7.2
Less than 100	6	85	45	69	18.0	11.0	15.4	9.0	4.5	7.8
100 to 1,000	7	450	102	165	50.2	22.1	31.1	16.0	5.0	9.3
1,000 to 2,000	13	385	180	282	52.0	34.1	40.6	18.3	12.0	14.9
2,000 to 3,000	39	261	240	260	44.1	36.9	42.5	18.5	13.2	16.0
3,000 to 4,000	41	350	250	267	56.0	38.6	43.7	21.1	14.5	16.9
4,000 to 5,000	11	494	258	347	56.0	40.2	46.2	21.0	17.0	18.9
5,000 to 6,000	21	435	364	385	56.0	42.3	46.4	20.7	17.5	19.4
6,000 to 7,000	29	486	360	395	55.1	44.0	48.8	21.4	18.5	20.2
7,000 to 8,000	45	552	400	439	56.2	47.9	50.7	21.8	17.8	20.2
8,000 to 9,000	40	526	412	462	60.3	46.6	51.9	21.7	18.5	20.1
9,000 to 10,000	23	500	450	480	56.2	50.0	52.8	21.2	19.6	20.6
10,000 to 11,000	27	524	500	517	56.0	52.0	53.8	21.7	19.9	20.7
11,000 to 12,000	39	562	524	540	60.3	50.0	55.0	22.2	19.5	21.0
12,000 to 13,000	34	585	524	553	60.2	56.0	57.5	21.9	19.2	21.2
13,000 to 14,000	19	607	556	594	60.2	56.0	58.1	22.7	20.7	21.4
14,000 to 15,000	34	621	545	601	62.0	58.0	59.6	22.4	20.5	21.6
15,000 to 16,000	29	638	600	607	65.2	59.2	60.5	22.7	21.2	22.0
16,000 to 17,000	4	617	606	612	64.2	60.2	63.2	22.5	21.4	21.9
17,000 to 18,000	18	633	620	622	70.2	60.2	61.0	24.2	19.4	23.7
18,000 to 19,000	1	631	631	631	65.2	65.2	65.2	22.7	22.7	22.7
19,000 to 20,000	3	640	640	640	67.0	67.0	67.0	24.1	24.0	24.0
20,000 and over	2	640	640	640	67.0	67.0	67.0	24.2	24.1	24.2

Yearly changes in class of vessels listed from their maximum freight cargoes—Continued

NUMBER OF SAILING AND UNRIGGED CRAFT

Year	Tons in maximum cargo between—												
	0 and 1,000	1,000 and 2,000	2,000 and 3,000	3,000 and 4,000	4,000 and 5,000	5,000 and 6,000	6,000 and 7,000	7,000 and 8,000	8,000 and 10,000	10,000 and 12,000	12,000 and 14,000	14,000 and over	Total
1887	158	89	8	1	------	------	------	------	------	------	------	------	256
1888	88	106	15	1	------	------	------	------	------	------	------	------	210
1889	113	100	18	------	------	------	------	------	------	------	------	------	231
1890	75	125	28	1	------	------	------	------	------	------	------	------	229
1891	89	147	20	------	------	------	------	------	------	------	------	------	256
1892	79	173	22	1	------	------	------	------	------	------	------	------	275
1893	90	168	35	1	------	------	------	------	------	------	------	------	294
1894	104	172	44	1	------	------	------	------	------	------	------	------	321
1895	121	192	37	4	1	------	------	------	------	------	------	------	355
1896	114	179	33	13	7	4	------	------	------	------	------	------	350
1897	76	161	37	28	3	16	2	------	------	------	------	------	323
1898	87	152	38	26	8	15	5	2	------	------	------	------	333
1899	57	134	36	28	9	13	9	------	4	------	------	------	290
1900	84	137	34	16	8	18	7	3	3	------	------	------	310
1901	64	129	28	26	16	14	9	2	7	------	------	------	295
1902	56	126	28	26	11	7	17	2	6	------	------	------	279
1903	39	115	18	26	12	4	21	2	6	------	------	------	243
1904	45	103	20	23	11	4	19	3	6	------	------	------	234
1905	39	94	21	18	13	3	17	5	8	------	------	------	218
1906	30	82	16	13	8	5	17	4	6	------	------	------	181
1907	34	65	10	10	7	4	15	5	2	------	------	------	152
1908	27	55	9	4	4	7	14	2	7	------	------	------	129
1909	20	57	11	6	8	2	15	3	6	------	------	------	128
1910	16	58	14	3	10	2	16	3	5	------	------	------	127
1911	19	51	5	2	9	8	8	5	2	------	------	------	109
1912	15	56	7	3	10	4	15	3	5	------	------	------	118
1913	16	52	10	6	7	3	14	3	6	------	------	------	117
1914	71	40	3	2	4	3	13	3	5	------	------	------	144
1915	49	31	5	2	6	2	15	3	5	------	------	------	118
1916	86	44	2	6	7	3	15	2	7	------	------	------	172
1917	43	33	4	5	6	1	16	2	7	------	------	------	117
1918	70	27	2	1	6	2	16	3	6	------	------	------	133
1919	48	24	3	1	3	2	14	4	5	------	------	------	104
1920	38	18	1	1	2	5	13	2	6	------	------	------	86
1921	56	13	1	1	3	1	------	------	------	------	------	------	75
1922	25	17	1	1	3	1	13	2	6	------	------	------	69
1923	45	14	1	1	2	2	14	3	6	------	------	------	88
1924	34	11	3	------	4	3	12	2	5	------	------	------	74
1925	21	9	3	3	2	5	8	1	5	------	------	------	57
1926	34	5	2	1	1	3	7	2	5	------	------	------	60
1927	31	3	1	4	4	2	12	2	5	------	------	------	64
1928	18	7	3	8	2	2	12	2	6	------	------	------	60
1929	31	3	3	3	4	4	11	2	6	------	------	------	67
1930	44	1	3	6	3	4	9	2	6	------	------	------	78
1931	36	2	2	5	6	1	1	1	------	------	------	------	54
1932	37	1	------	8	2	1	2	------	------	------	------	------	51
1933	22	2	3	2	2	2	2	3	3	------	------	------	41
1934	18	2	3	4	4	1	2	------	------	------	------	------	34
1935	16	2	9	5	3	1	2	------	------	------	------	------	38
1936	15	1	9	5	4	4	3	------	6	------	------	------	47
1937	24	6	3	3	9	1	8	------	6	------	------	------	60
1938	25	1	2	6	5	6	5	------	------	------	------	------	50
1939	27	------	------	10	3	7	3	------	1	------	------	------	51
1940	15	4	4	6	2	10	4	1	5	------	------	------	51
1941	25	------	4	6	3	10	7	1	5	------	------	------	61
1942	33	5	------	8	3	8	6	1	6	------	------	------	70
1943	41	2	------	2	3	6	6	2	6	------	------	------	68
1944	21	2	2	3	3	7	6	1	6	------	------	------	51
1945	31	2	------	4	3	7	5	1	5	------	------	------	58
1946	14	1	------	3	3	9	4	------	6	------	------	------	40

Yearly changes in class of vessels listed from their maximum freight cargoes—Continued

PROPELLERS AND SAILING AND UNRIGGED CRAFT COMBINED

Year	Tons in maximum cargo between—															
	0 and 1,000	1,000 and 2,000	2,000 and 3,000	3,000 and 4,000	4,000 and 5,000	5,000 and 6,000	6,000 and 7,000	7,000 and 8,000	8,000 and 10,000	10,000 and 12,000	12,000 and 14,000	14,000 and 16,000	16,000 and 18,000	18,000 and 20,000	20,000 and over	Total
1887	309	219	41	1	----	----	----	----	----	----	----	----	----	----	----	570
1888	230	211	80	1	----	----	----	----	----	----	----	----	----	----	----	522
1889	264	209	103	----	----	----	----	----	----	----	----	----	----	----	----	576
1890	191	248	158	1	----	----	----	----	----	----	----	----	----	----	----	598
1891	217	295	139	1	----	----	----	----	----	----	----	----	----	----	----	652
1892	252	339	137	7	----	----	----	----	----	----	----	----	----	----	----	735
1893	252	329	157	15	----	----	----	----	----	----	----	----	----	----	----	753
1894	265	339	192	18	----	----	----	----	----	----	----	----	----	----	----	814
1895	279	400	176	18	4	----	----	----	----	----	----	----	----	----	----	877
1896	281	335	168	43	21	11	----	----	----	----	----	----	----	----	----	859
1897	262	280	133	111	26	28	8	----	----	----	----	----	----	----	----	848
1898	273	266	116	118	26	34	18	5	----	----	----	----	----	----	----	856
1899	243	245	109	139	22	32	27	10	5	----	----	----	----	----	----	832
1900	275	247	117	125	23	36	25	23	8	----	----	----	----	----	----	879
1901	250	235	112	149	30	41	33	33	10	----	----	----	----	----	----	893
1902	236	241	112	159	38	39	54	45	11	----	----	----	----	----	----	935
1903	172	259	89	162	36	41	63	54	19	----	----	----	----	----	----	895
1904	228	181	93	154	37	30	64	59	39	1	----	----	----	----	----	886
1905	203	190	101	148	44	22	57	60	65	17	3	----	----	----	----	910
1906	191	177	86	134	37	24	52	82	48	36	12	----	----	----	----	879
1907	192	155	71	125	34	20	58	52	95	55	22	----	----	----	----	879
1908	165	148	76	96	25	19	47	44	95	65	26	----	----	----	----	806
1909	182	130	78	110	25	32	58	58	96	77	24	----	----	----	----	870
1910	160	127	93	108	39	25	61	79	78	84	23	----	----	----	----	877
1911	158	114	79	71	35	37	49	74	76	64	8	----	----	----	----	765
1912	153	120	89	92	35	31	63	76	69	96	29	----	----	----	----	853
1913	144	119	83	98	29	28	61	66	91	93	36	4	----	----	----	852
1914	209	99	67	68	28	26	55	54	80	88	39	----	----	----	----	813
1915	173	92	67	76	28	32	56	69	83	97	30	3	----	----	----	806
1916	205	122	53	67	32	24	54	49	105	73	59	20	----	----	----	863
1917	174	82	38	62	30	22	60	43	104	77	53	35	----	----	----	780
1918	206	66	20	47	15	17	60	50	100	81	62	25	----	----	----	749
1919	210	66	25	29	17	17	52	47	100	79	64	27	----	----	----	733
1920	162	45	32	27	15	25	50	47	100	76	56	43	----	----	----	678
1921	185	46	30	26	13	17	26	37	69	83	55	9	----	----	----	596
1922	163	43	25	33	19	16	53	67	92	104	50	4	----	----	----	669
1923	183	59	46	73	15	23	63	70	84	100	49	9	----	----	----	774
1924	152	40	51	58	23	29	68	68	66	106	52	----	----	----	----	713
1925	135	62	68	49	19	36	67	78	70	105	40	----	----	----	----	729
1926	138	52	64	49	19	36	72	74	69	107	51	1	----	----	----	732
1927	163	40	54	42	17	35	61	65	61	112	70	5	----	----	----	725
1928	157	66	57	38	13	23	59	60	81	104	67	14	----	----	----	739
1929	154	49	79	37	13	20	51	43	86	81	64	61	----	----	----	738
1930	194	31	57	42	13	20	41	49	76	100	71	19	----	----	----	713
1931	175	33	82	54	16	21	25	48	56	86	35	3	----	----	----	634
1932	144	36	60	85	11	25	33	20	70	41	7	1	----	----	----	533
1933	112	31	63	91	10	19	42	48	68	89	31	1	----	----	----	605
1934	124	26	78	72	14	22	41	18	80	87	4	2	----	----	----	568
1935	131	37	82	81	19	12	26	29	70	66	57	3	----	----	----	613
1936	135	49	86	88	17	15	25	60	54	89	60	31	----	----	----	709
1937	171	31	73	66	24	19	30	67	68	73	47	64	----	----	----	733
1938	159	31	84	81	17	14	22	41	35	58	53	19	----	----	----	614
1939	166	32	76	99	17	20	31	67	57	73	52	60	----	----	----	750
1940	143	17	81	70	19	22	31	70	62	74	48	70	----	----	----	707
1941	150	16	57	73	16	28	41	52	71	67	47	71	10	1	----	700
1942	146	13	39	66	16	19	38	51	82	66	58	71	9	8	----	682
1943	181	17	53	60	13	18	34	48	88	64	60	63	34	2	4	739
1944	165	13	34	61	12	27	35	52	76	65	56	67	26	2	6	697
1945	152	12	27	56	11	18	33	40	69	68	54	68	20	7	5	640
1946	115	13	39	41	11	21	29	45	63	66	53	63	22	4	2	587

Yearly statement of freight carried by steamers and other vessels

Year	Propellers		Sailing and unrigged craft		Unregistered craft carrying freight		Total freight	Percentgae of freight carried by Propellers
	Number in commission	Freight carried	Number in commission	Freight carried	Number of passages	Freight carried		
		Tons		*Tons*		*Tons*	*Tons*	
1887	314	3,303,895	256	2,162,048	825	28,706	5,494,649	50
1888	312	4,292,976	210	2,095,347	219	23,100	6,411,423	67
1889	345	5,175,799	231	2,304,538	443	35,685	7,516,022	69
1890	369	6,291,873	229	2,743,839	417	5,501	9,041,213	70
1891	396	6,420,939	256	2,456,091	447	11,729	8,888,759	72
1892	460	7,960,477	275	3,242,441	227	11,415	11,214,333	70
1893	459	7,723,153	294	3,034,084	213	39,335	10,796,572	72
1894	493	6,795,752	321	3,381,860	172	18,248	13,195,860	74
1895	522	10,581,474	355	4,464,671	232	16,435	15,062,580	70
1896	509	11,878,089	350	4,349,083	210	11,889	16,230,061	73
1897	525	13,163,667	323	5,790,326	377	28,762	18,982,755	69
1898	523	14,569,066	333	6,653,157	286	12,441	21,234,664	69
1899	542	17,801,213	290	7,423,311	366	31,286	25,255,810	71
1900	569	19,586,750	310	5,999,184	454	57,139	25,643,073	76
1901	598	21,186,571	295	7,166,694	413	49,800	28,403,065	75
1902	656	28,465,068	279	7,431,230	490	64,848	35,961,146	79
1903	652	28,042,546	243	6,594,304	361	37,587	34,674,437	81
1904	652	25,720,437	234	5,769,060	513	56,609	31,546,106	81
1905	692	37,724,522	218	6,479,506	729	66,652	44,270,680	85
1906	698	45,872,051	181	5,780,211	810	98,818	51,751,080	89
1907	727	52,937,151	152	5,249,806	346	30,257	58,217,214	91
1908	677	38,144,570	129	3,224,048	286	21,939	41,390,557	92
1909	742	53,649,833	128	4,221,264	242	24,052	57,895,149	93
1910	750	58,039,752	127	4,294,372	398	29,094	62,363,218	93
1911	656	49,580,133	109	3,866,487	421	30,596	53,477,216	93
1912	735	68,008,313	118	4,292,278	535	172,085	72,472,676	94
1913	735	75,173,822	117	4,260,822	694	283,700	79,718,344	94
1914	669	52,063,466	144	3,221,747	375	84,721	55,369,934	94
1915	688	67,098,814	118	4,091,056	482	100,434	71,290,304	94
1916	691	87,108,550	172	4,722,990	263	56,679	91,888,219	95
1917	663	85,556,016	117	4,129,273	402	118,609	89,813,898	95
1918	616	81,847,161	133	3,776,824	248	56,342	85,680,327	96
1919	629	65,682,854	104	2,490,338	218	62,350	68,235,542	96
1920	592	76,495,144	86	2,748,069	206	39,283	79,282,496	96
1921	521	47,913,275	75	223,428	235	122,551	48,259,254	99
1922	600	64,316,448	69	1,646,359	250	104,451	66,067,258	97
1923	686	88,210,789	88	3,081,620	193	87,249	91,379,658	97
1924	639	70,569,621	74	1,426,354	197	41,415	72,037,390	98
1925	672	79,527,789	57	2,300,509	210	46,810	81,875,108	97
1926	672	82,894,532	60	2,732,060	168	52,495	85,679,087	97
1927	661	81,338,617	64	1,986,455	174	28,992	83,354,064	98
1928	679	84,327,342	60	2,637,945	139	27,710	86,992,997	97
1929	671	89,894,790	67	2,716,789	174	10,438	92,622,017	97
1930	635	71,285,214	78	1,588,720	152	23,818	72,897,752	98
1931	580	44,214,386	54	389,933	161	9,352	44,613,671	99
1932	482	20,163,823	51	316,168	116	882	20,480,873	98
1933	564	39,676,798	41	442,012	233	189,083	40,307,893	98
1934	534	41,799,819	34	434,164	118	14,148	42,248,131	99
1935	575	47,808,868	38	418,253	108	66,187	48,293,308	99
1936	662	67,954,405	47	1,573,482	20	713	69,528,600	98
1937	673	85,632,458	60	1,980,212	28	21,029	87,633,699	98
1938	564	39,336,223	50	696,146	20	10,370	40,042,739	98
1939	699	68,925,287	51	906,007	24	18,968	69,850,262	99
1940	656	87,909,523	51	1,947,512	8	1,284	89,858,319	98
1941	639	108,538,851	61	2,582,721	2	112	111,121,684	98
1942	612	117,323,847	70	2,874,828	4	804	120,199,479	98
1943	671	113,446,715	68	2,405,178	2	10	115,851,903	98
1944	646	114,941,018	51	2,297,011	1	2	117,238,031	98
1945	582	110,583,721	58	2,398,909	0	0	112,982,630	98
1946	547	89,857,970	40	1,728,875	0	50	91,586,895	98

Yearly individual maximum records of freight vessels

Year	Largest single cargo		Greatest amount of freight carried		Greatest number of miles run [1]		Greatest number of mile-tons [1]	
	Steamer	Tons	Steamer	Tons	Steamer	Miles run	Steamer	Mile-tons
1887	Onoko	3,048	Onoko	46,429	Alberta	30,789	Spokane	39,716,953
1888	do	2,849	Charles J. Sheffield	59,190	do	29,176	do	51,789,390
1889	Pontiac	2,849	Northern Wave	59,001	Athabasca	33,344	Northern Wave	58,311,447
1890	Western Reserve	2,946	Manola	77,124	Manola	49,201	Northern Queen	68,794,994
1891	E. C. Pope	3,136	Castalia	68,943	Mariska	43,807	do	60,899,000
1892	Maritana	3,580	do	82,309	Thos. W. Palmer	48,044	do	65,535,900
1893	Selwyn Eddy	3,686	Mariposa	87,760	Matoa	42,939	Mariposa	73,086,136
1894	S. S. Curry	3,758	Maritana	94,640	do	48,363	Maritana	77,985,016
1895	Penobscot	4,294	Mariposa	90,703	Masaba	45,481	do	75,287,054
1896	Queen City	5,376	Victory	96,877	Kearsarge	47,709	Centurion	80,559,417
1897	Empire City	6,171	Andrew Carnegie	130,956	Harlem	49,853	Andrew Carnegie	114,571,524
1898	Samuel F. B. Morse	7,280	Empire City	138,726	Samuel Mitchell	43,718	Empire City	126,266,531
1899	Malietoa	8,215	Presque Isle	187,816	Andrew Carnegie	42,027	Henry W. Oliver	141,475,588
1900	John W. Gates	8,462	do	195,550	Troy	45,318	John W. Gates	154,554,378
1901	William Edenborn	8,222	do	161,375	Buffalo	41,370	John J. Albright	132,822,226
1902	Isaac L. Ellwood	8,441	William Edenborn	183,270	Troy	45,340	William Edenborn	158,858,138
1903	William Edenborn	8,914	John W. Gates	164,763	Buffalo	45,330	Bransford	158,843,973
1904	Augustus B. Wolvin	11,536	Augustus B. Wolvin	177,729	Huronic	33,516	Augustus B. Wolvin	156,410,487
1905	Elbert H. Gary	12,368	do	274,401	Duluth	41,374	do	249,038,482
1906	J. Pierpont Morgan	13,272	Elbert H. Gary	313,434	Elbert H. Gary	42,986	Elbert H. Gary	249,353,656
1907	do	13,800	J. Pierpont Morgan	339,151	J. Pierpont Morgan	43,296	J. Pierpont Morgan	277,001,680
1908	Daniel J. Morrell	13,978	do	239,952	do	37,600	Daniel J. Morrell	243,087,661
1909	Edward Y. Townsend	13,664	Edward Y. Townsend	312,196	Edward Y. Townsend	44,443	Edward Y. Townsend	280,610,200
1910	William B. Schiller	13,048	Henry H. Rogers	309,339	Daniel J. Morrell	43,663	Henry H. Rogers	257,030,218
1911	Alva C. Dinkey	12,544	Shenango	321,338	William E. Corey	44,054	Shenango	281,764,922
1912	Col. James M. Schoonmaker	13,511	Col. James M. Schoonmaker	374,014	do	46,835	Col. James M. Schoonmaker	327,758,366
1913	James A. Farrell	14,280	do	442,341	The Harvester	43,505	do	395,582,969
1914	W. Grant Morden	13,750	Shenango	355,864	William B. Dickson	42,296	Shenango	307,853,671
1915	do	14,289	Percival Roberts, jr	377,620	James A. Farrell	49,995	Edward Y. Townsend	332,331,135
1916	Col. James M. Schoonmaker	15,347	Col. James M. Schoonmaker	464,725	William P. Palmer	51,347	Col. James M. Schoonmaker	410,549,628
1917	Eugene W. Pargny	15,399	William A. McGonagle	419,742	William A. McGonagle	48,059	William P. Snyder, jr	349,003,001
1918	D. G. Kerr	15,133	Col. James M. Schoonmaker	464,224	do	45,851	William J. Filbert	421,399,358
1919	W. Grant Morden	15,500	Homer D. Williams	378,142	Eugene W. Pargny	43,258	Homer D. Williams	313,903,396
1920	William J. Filbert	15,581	Eugene W. Pargny	417,321	N. F. Leopold	46,057	Emory L. Ford	361,216,408
1921	W. Grant Morden	15,456	Merton E. Farr	395,793	Joseph Block	47,705	Merton E. Farr	328,368,636
1922	Col. James M. Schoonmaker	14,500	Henry G. Dalton	405,220	N. F. Leopold	47,705	Henry G. Dalton	341,614,560
1923	Fred G. Hartwell	14,784	James MacNaughton	491,394	John J. Barlum	46,659	Col. James M. Schoonmaker	420,860,008
1924	do	13,970	William K. Field	531,876	Joseph Block	49,440	William K. Field	459,415,456
1925	Richard Trimble	13,248	James MacNaughton	554,100	do	53,296	James MacNaughton	451,602,844

[1] Discontinued in 1941.

Yearly individual maximum records of freight vessels—Continued

Year	Largest single cargo		Greatest amount of freight carried		Greatest number of miles run [1]		Greatest number of mile-tons [1]	
	Steamer	Tons	Steamer	Tons	Steamer	Miles run	Steamer	Mile-tons
1926	Lemoyne	15,900	William C. Atwater	442,016	Philip D. Block	50,629	Fred G. Hartwell	378,595,000
1927	do	15,500	James MacNaughton	554,978	The Harvester	50,468	do	446,377,000
1928	do	16,650	William C. Atwater	487,888	L. E. Block	50,684	William C. Atwater	406,193,000
1929	do	17,160	do	557,020	do	52,584	Fred G. Hartwell	463,701,000
1930	do	16,680	Benson Ford	511,939	N. F. Leopold	52,726	do	430,013,000
1931	do	15,300	George R. Fink	425,399	L. E. Block	49,614	L. E. Block	324,806,000
1932	do	14,550	C. Russell Hubbard	285,571	Edward G. Seubert	54,384	C. Russell Hubbard	230,620,000
1933	do	14,850	L. E. Block	429,893	L. E. Block	53,894	L. E. Block	351,194,392
1934	do	14,160	Carle C. Conway	390,326	do	46,076	Carle C. Conway	316,830,386
1935	Harry Coulby	15,008	L. E. Block	458,874	do	51,766	Thomas Walters	376,473,959
1936	Lemoyne	16,620	Henry Ford II	474,372	John B. Cowle	47,089	do	392,046,872
1937	L. E. Block	17,265	L. E. Block	504,642	L. E. Block	50,446	L. E. Block	410,878,320
1938	do	17,610	Ernest T. Weir	472,382	Red Crown	46,144	Ernest T. Weir	375,664,086
1939	do	17,615	L. E. Block	482,516	do	51,088	L. E. Block	386,733,664
1940	Harry Coulby	17,891	Fred G. Hartwell	568,446	do	49,044	Fred G. Hartwell	463,097,599
1941	Harry Coulby	18,295	Fred G. Hartwell	629,072				
1942	Lemoyne	19,132	do	644,004				
1943	Benjamin F. Fairless	20,384	Leon Fraser	666,400				
1944	Irving S. Olds	20,272	Irving S. Olds	736,828				
1945	Benjamin F. Fairless	20,824	Fred G. Hartwell	683,781				
1946	Irving S. Olds	20,300	Irving S. Olds	623,001				

[1] Discontinued in 1941.

Traffic through each lock, season of 1946

Lock	Days operated	Average daily passages	Registered tonnage	Freight tonnage
	Number	*Number*	*Percent*	*Percent*
MacArthur	216	22	33	46
Poe	7	5	0	0
Davis	251	21	34	27
Sabin	217	22	27	25
Canadian	252	13	6	2
All locks	268	67	100	100

Maximum records for one day, season of 1946

FREIGHT TONNAGE

Lock	Date	Number of lockages	Number of passages	Registered tonnage	Freight tonnage
MacArthur	2 Sept.	28	28	149,555	303,347
Poe	17 Sept.	6	7	29,861	13,157
Davis	25 June	20	28	128,426	235,046
Sabin	28 June	22	33	123,504	195,773
Canadian	11 Aug.	23	27	29,938	28,261
All locks	2 Sept.	76	104	418,757	669,692

PASSAGES

MacArthur	17 July	29	31	132,428	236,664
Poe	16 Sept.	8	8	33,691	0
Davis	14 July	24	37	159,140	175,218
Sabin	18 Oct.	21	36	120,177	149,337
Canadian	15 Sept.	19	28	28,303	9,935
All locks	11 Aug.	85	115	402,865	542,084

LOCKAGES

MacArthur	17 July	29	31	132,428	236,664
Poe	16 Sept.	8	8	33,691	0
Davis	8 July	25	30	135,431	90,540
Sabin	11 Oct.	23	33	123,835	104,705
Canadian	11 Aug.	23	27	29,938	28,261

Maximum all-time records for 1 day

FREIGHT TONNAGE

Lock	Date	Number of lockages	Number of passages	Registered tonnage	Freight tonnage
Weitzel[1]	Sept. 9, 1895	31	98	85,192	105,542
MacArthur	June 6, 1944	22	22	127,062	308,651
Poe	Sept. 2, 1907	28	49	160,179	295,542
Davis	July 28, 1919	25	51	214,117	463,482
Sabin	July 6, 1943	23	45	196,537	451,574
Canadian	June 2, 1913	33	43	154,739	291,983
All locks	July 6, 1943	102	160	600,212	971,427

PASSAGES

Weitzel[1]	June 17, 1895	36	119	103,870	84,244
McArthur	July 17, 1946	29	31	132,428	236,664
Poe	May 19, 1899	25	98	117,737	166,825
Davis	May 29, 1942	27	65	181,125	256,133
Sabin	May 29, 1942	25	58	198,450	318,260
Canadian	June 6, 1902	28	81	108,622	117,353
All locks	July 5, 1917	88	161	448,117	492,380

LOCKAGES

Weitzel[1]	July 19, 1895	41	100	79,197	58,897
MacArthur	July 17, 1946	29	31	132,428	236,664
Poe	July 19, 1915	38	64	103,537	16,709
Davis	July 9, 1916	31	46	185,664	257,546
Sabin	May 22, 1943	27	51	195,134	261,892
Canadian	June 6, 1910	39	39	143,526	253,347

[1] Weitzel lock destroyed and replaced by MacArthur lock 1943.

Maximum all-time freight records for each month of navigation

Month	Year	Number of lockages	Number of passages	Registered tonnage	Freight tonnage
March	1942	141	199	829,421	513,559
April	1942	1,667	2,452	8,771,455	10,216,001
May	1944	2,332	3,234	12,262,914	16,383,301
June	1944	2,471	3,231	12,264,366	17,043,776
July	1944	2,594	3,278	12,853,854	17,449,435
August	1943	2,518	3,586	12,759,182	17,619,709
September	1943	2,505	3,533	12,207,424	16,936,048
October	1943	2,520	3,435	12,276,065	16,502,946
November	1941	1,965	2,623	9,812,801	12,222,942
December	1916	514	760	1,802,349	2,762,375

Lockage data, St. Marys Falls Canal, Mich.

Date	MacArthur lock (Opened July 11, 1943)				Weitzel lock (Opened Sept. 1, 1881) (Destroyed 1942)			Poe lock (Opened Aug. 3, 1896)				Davis lock (Opened Oct. 21, 1914)				Sabin lock (Previously Fourth lock) (Opened Sept. 18, 1919)				All locks				Average time of passage of canal 1¾ miles long, including lockage	
	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Number of lockages	Average time of lockage	Number of passages	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Actual	Necessary
						M. s.			*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*	*H. m.*	*H. m.*
1887-95					(1)	40 20	(1)																	4 47	3 39
1896					5,462	36 35	11,035	961	56 45	2,406														2 45	2 09
1897					1,577	38 59	2,677	4,390	43 14	10,135														2 16	1 42
1898					2,682	33 30	4,513	4,326	43 05	9,545														2 13	1 14
1899					4,007	32 05	6,935	4,382	46 58	9,545														2 19	1 14
1900					4,153	20 43	7,093	4,326	34 21	9,276														2 11	1 10
1901					4,074	24 22	7,004	4,337	36 02	8,833														2 41	1 34
1902					4,149	22 09	6,469	5,278	37 58	11,119														2 37	1 29
1903					3,467	20 37	5,173	4,928	34 45	9,070														2 21	1 24
1904					3,219	22 43	4,747	4,074	34 30	7,406														2 18	1 23
1905					4,469	22 57	6,561	5,288	35 15	9,458														2 11	1 39
1906					4,522	22 59	6,507	5,845	34 31	9,968														2 33	1 48
1907					3,941	23 29	5,616	5,487	35 09	8,475														2 40	2 09
1908					2,005	21 52	2,697	4,734	32 38	7,104														3 30	2 40
1909					3,548	21 23	4,629	5,059	35 34	8,174														3 04	2 05
1910					3,361	26 53	4,555	5,377	45 35	8,372														2 36	2 13
1911					2,861	17 12	3,752	5,203	30 45	8,118														2 08	1 36
1912					4,008	20 07	5,669	5,880	32 48	9,247														2 33	1 59
1913					4,690	20 14	6,588	5,911	32 11	9,011														2 49	1 59
1914					3,364	17 55	4,732	4,795	28 35	7,062	27 29	556	35 59	845	33 34					5,351	29 21	7,907	28 28	2 03	1 31
1915								5,563	23 47	8,703	23 19	4,756	40 08	8,207	35 49					10,319	31 19	16,910	29 23	1 54	1 25
1916								6,197	28 31	9,925	26 36	5,220	38 39	8,791	34 40					11,417	32 54	18,716	30 24	1 56	1 30
1917								5,678	29 11	9,408	27 49	4,791	41 52	8,128	37 09					10,469	34 59	17,536	32 08	2 41	1 49
1918					1,561	17 55	2,017	4,632	20 15	6,261	25 49	4,676	37 48	7,259	34 21					9,308	32 03	13,520	30 24	1 31	1 18
1919								4,272	23 05	5,869	22 47	3,965	38 35	6,325	35 03	890	41 44	1,323	38 20	9,127	31 38	13,517	30 03	1 40	1 21
1920								3,484	23 37	4,463	23 39	3,268	35 08	4,836	32 52	3,364	43 53	5,539	39 01	10,116	34 05	14,838	32 24	1 29	1 15
1921								1,085	21 43	1,464	22 38	2,632	32 04	3,536	30 57	2,870	35 24	3,961	33 17	6,587	31 49	8,961	30 37	1 22	1 07
1922								3,029	23 14	3,894	23 15	3,232	35 02	4,818	32 42	3,128	41 39	5,164	37 00	9,389	33 26	13,876	31 39	1 32	1 14
1923								4,079	24 11	5,662	24 01	3,491	39 27	5,671	35 50	3,691	45 54	6,675	39 15	11,261	36 02	18,008	33 23	1 51	1 29
1924								3,401	22 49	4,423	22 48	3,257	32 39	4,638	32 08	3,678	37 59	5,490	34 20	10,336	31 19	14,551	30 07	1 23	1 07

[1] See Weitzel lock, next table.

Lockage data, St. Marys Falls Canal, Mich.—Continued

Date	MacArthur lock (Opened July 11, 1943)				Weitsel lock (Opened Sept. 1, 1881) (Destroyed 1942)			Poe lock (Opened Aug. 3, 1896)				Davis lock (Opened Oct. 21, 1914)				Sabin lock (Previously Fourth lock) (Opened Sept. 18, 1919)				All locks				Average time of passage of canal 1¾ miles long, including lockage	
	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Number of lockages	Average time of lockage	Number of passages	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Number of lockages	Average time of lockages	Number of passages	Average time passing lock	Number of lockages	Average time of lockage	Number of passages	Average time passing lock	Actual	Necessary
						M. s.			*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*		*M. s.*	*H. m.*	*H. m.*
1925								3,640	21 37	4,786	22 57	4,061	33 51	5,979	31 19	3,957	38 47	6,352	34 31	11,658	31 43	17,117	30 09	1 20	1 09
1926								3,801	22 09	5,063	23 21	4,049	35 25	6,137	32 28	3,775	40 09	6,348	35 18	11,625	32 37	17,548	30 51	1 32	1 11
1927								3,532	22 10	4,396	21 58	3,822	32 31	5,321	30 48	3,879	36 21	5,803	32 54	11,233	30 32	15,520	29 05	1 11	1 02
1928								3,565	23 11	4,470	22 55	3,905	32 38	5,597	30 30	3,759	37 19	5,861	33 28	11,229	31 12	15,928	29 28	1 13	1 04
1929								3,853	22 50	4,856	22 37	3,910	33 16	5,632	31 05	3,790	37 24	5,721	33 49	11,553	31 09	16,209	29 31	1 10	1 02
1930								3,364	20 56	4,328	20 43	3,387	31 27	4,664	29 39	3,382	35 04	4,871	32 06	10,133	29 10	13,863	27 43	1 08	1 00
1931								43	25 53	65	26 33	3,309	27 32	4,753	29 26	3,590	29 45	5,144	27 58	6,942	28 40	9,962	27 13	1 01	0 56
1932												2,882	27 04	4,015	25 56	1,116	26 05	1,565	25 34	3,998	26 47	5,580	25 50	1 02	0 59
1933								20	25 30	28	25 23	3,155	29 52	4,607	28 35	2,952	32 35	4,344	31 00	6,127	31 10	8,979	29 45	1 11	1 06
1934								44	25 00	46	24 50	3,002	30 24	4,235	29 06	3,214	31 33	4,419	29 44	6,260	30 57	8,700	29 24	1 15	1 09
1935								19	26 19	21	25 49	3,460	31 17	4,847	30 05	3,698	34 27	5,195	32 35	7,177	32 54	10,063	31 22	1 06	1 04
1936								738	23 51	904	23 28	3,982	35 16	6,155	32 31	4,057	37 07	6,320	33 45	8,777	35 10	13,379	32 29	1 17	1 12
1937								3,426	22 46	4,191	22 31	3,978	37 45	6,126	34 15	4,173	39 26	6,410	35 40	11,577	33 55	16,727	31 51	1 18	1 12
1938												2,562	30 08	3,400	29 05	3,304	32 03	4,460	30 27	5,866	31 13	7,860	29 51	1 12	1 02
1939								1,880	22 57	2,212	23 35	3,933	34 04	5,733	31 43	3,979	36 18	5,801	33 37	9,792	32 50	13,746	31 03	1 14	1 09
1940								3,998	22 01	4,699	21 47	4,042	38 26	6,078	34 53	4,103	41 09	6,503	36 37	12,143	33 57	17,280	31 58	1 18	1 15
1941								4,971	22 29	6,033	22 04	4,647	39 42	7,378	35 19	4,642	42 14	7,609	37 22	14,260	34 31	21,020	32 15	1 21	1 18
1942								3,254	23 04	3,918	22 34	5,070	41 50	8,706	36 22	4,993	44 10	8,908	38 11	13,317	38 08	21,532	34 36	1 34	1 31
1943	1,785	24 12	1,994	23 42				3,054	21 53	3,963	21 54	4,285	39 00	6,993	34 36	4,303	42 01	7,352	36 32	13,427	34 07	20,302	31 45	1 24	1 21
1944	3,539	25 20	3,691	24 31				3,020	21 26	3,398	21 18	4,200	36 11	6,276	33 27	4,166	38 32	6,669	34 47	14,925	31 59	20 034	30 52	1 15	1 12
1945	3,772	24 29	3,890	24 17				3,301	21 25	3,716	21 08	4,229	34 45	6,105	32 02	3,977	37 13	6,103	33 47	15,279	29 59	19,814	29 00	1 06	1 05
1946	4,517	23 20	4,709	23 09				27	23 24	32	22 39	3,948	32 54	5,340	30 58	3,249	34 25	4,689	31 41	11,741	29 37	14,770	28 41	1 06	1 03

[1] See Weitsel lock, next table.

Statement of traffic through American and Canadian locks since opening in 1881

WEITZEL LOCK (OPENED SEPT. 1, 1881, DESTROYED 1942)

Year	Passages	Lockages	Registered tonnage	Freight tonnage	Passengers
1881	4,004	887	2,092,757	1,567,741	24,671
1882	4,774	2,572	2,468,088	2,029,521	29,256
1883	4,315	2,351	2,042,259	2,267,105	39,130
1884	5,689	3,074	2,997,837	2,874,557	54,214
1885	5,380	2,863	3,035,937	3,256,628	36,147
1886	7,424	3,593	4,219,397	4,527,759	27,088
1887	9,355	4,165	4,897,598	5,494,649	32,668
1888	7,803	3,845	5,130,659	6,411,423	25,558
1889	9,579	4,684	7,221,935	7,516,022	25,712
1890	10,557	4,970	8,454,435	9,041,213	24,855
1891	10,191	4,987	8,400,685	8,888,759	26,190
1892	12,580	5,867	10,647,203	11,214,333	25,896
1893	12,008	5,553	8,949,754	10,796,572	18,869
1894	14,491	6,431	13,110,366	13,195,860	27,236
1895	16,793	7,039	16,089,878	14,471,648	30,910
1896	11,040	5,462	9,904,788	8,189,576	18,743
1897	2,677	1,577	1,702,969	981,335	13,527
1898	4,513	2,682	2,646,793	1,519,632	16,446
1899	6,935	4,007	4,176,601	2,327,317	24,482
1900	7,093	4,153	4,504,680	2,058,405	24,188
1901	7,004	4,074	5,305,498	2,331,377	23,188
1902	6,469	4,149	5,147,302	1,497,124	11,986
1903	5,173	3,467	4,156,902	1,381,421	9,250
1904	4,747	3,219	4,277,056	1,876,993	13,251
1905	6,561	4,469	6,944,761	2,258,706	15,638
1906	6,507	4,522	6,650,905	2,096,802	16,723
1907	5,616	3,941	5,841,003	1,772,701	15,940
1908	2,697	2,005	2,670,501	817,767	4,855
1909	4,629	3,548	5,448,174	497,572	9,315
1910	4,555	3,361	4,662,273	271,210	5,741
1911	3,752	2,861	1,937,795	101,192	6,495
1912	5,669	4,008	4,837,095	338,051	7,953
1913	6,588	4,690	6,049,561	679,793	17,192
1914	4,732	3,364	3,064,081	257,769	10,352
1918 [1]	2,017	1,561	1,045,329	61,615	850

[1] Not in commission since 1918

Statement of traffic through American and Canadian locks since opening in 1881—Continued

POE LOCK (OPENED AUG. 3, 1896)

Year	Passages	Lockages	Registered tonnage	Freight tonnages	Passengers
1896	2,041	961	2,992,200	3,489,448	3,695
1897	10,135	4,390	12,120,867	13,058,291	15,178
1898	9,545	4,326	13,224,816	16,664,519	11,112
1899	9,545	4,382	14,844,838	19,924,822	9,182
1900	9,276	4,326	15,632,102	21,548,949	12,125
1901	8,833	4,337	16,916,836	23,250,661	6,513
1902	11,119	5,278	22,260,719	29,735,671	10,792
1903	9,070	4,928	18,841,962	27,790,831	13,906
1904	7,406	4,074	15,882,936	24,640,923	8,355
1905	9,458	5,288	24,176,472	36,543,484	12,763
1906	9,968	5,845	28,138,838	43,083,490	14,202
1907	8,475	5,487	26,160,107	40,859,145	17,035
1908	7,194	4,734	18,816,998	27,839,530	18,224
1909	8,174	5,059	23,491,289	29,634,802	18,421
1910	8,372	5,377	21,844,713	25,656,451	27,795
1911	8,118	5,203	20,383,724	22,422,155	34,276
1912	9,247	5,880	26,110,038	32,486,784	21,642
1913	9,011	5,911	26,013,058	36,342,408	28,304
1914	7,062	4,795	19,155,395	23,188,132	19,057
1915	8,703	5,563	16,321,070	6,084,517	17,441
1916	9,925	6,197	21,779,236	18,592,283	20,279
1917	9,408	5,678	19,816,754	15,585,720	10,302
1918	6,261	4,632	18,448,046	11,750,717	6,220
1919	5,869	4,272	12,879,113	3,857,123	14,917
1920	4,463	3,484	10,986,700	2,988,894	21,127
1921	1,464	1,085	1,594,705	512,136	2,323
1922	3,894	3,029	9,278,100	940,433	18,193
1923	5,662	4,079	13,670,778	931,714	16,330
1924	4,423	3,401	10,723,883	1,224,274	14,327
1925	4,786	3,640	12,649,460	864,761	14,906
1926	5,063	3,801	14,273,281	492,681	13,152
1927	4,396	3,532	12,421,854	836,803	15,431
1928	4,470	3,565	13,638,782	2,152,147	16,923
1929	4,856	3,853	14,688,835	3,614,916	14,138
1930	4,328	3,364	10,783,266	1,469,581	12,332
1931	65	43	122,515	519	30
1932	(2)	(2)	(2)	(2)	(2)
1933	28	20	62,536	4,578	0
1934	46	44	193,724	71	135
1935	21	19	106,797	0	0
1936	904	738	2,991,992	109,581	1,037
1937	4,191	3,426	12,700,296	491,685	12,896
1938	(2)	(2)	(2)	(2)	(2)
1939	2,212	1,880	6,794,356	1,082,843	3,165
1940	4,699	3,998	15,587,202	575,089	14,859
1941	6,033	4,971	19,064,508	1,151,495	25,098
1942	3,918	3,254	11,865,027	384,146	110
1943	3,963	3,054	10,292,917	2,125,782	0
1944	3,398	3,020	12,567,107	1,062,753	5
1945	3,716	3,301	13,618,882	903,968	1,271
1946	32	27	103,482	13,157	95

[2] Not in commission.

Statement of traffic through American and Canadian locks since opening in 1881—Continued

DAVIS LOCK (OPENED OCT. 21, 1914)

Year	Passages	Lockages	Registered tonnage	Freight tonnage	Passengers
1914	845	556	2,470,905	4,325,566	383
1915	8,207	4,756	31,597,777	57,464,476	7,937
1916	8,791	5,220	35,258,971	56,492,956	3,028
1917	8,128	4,791	33,597,053	58,776,130	1,688
1918	7,259	4,676	31,585,752	60,946,348	972
1919	6,325	3,965	25,510,478	49,494,635	759
1920	4,836	3,268	18,796,307	22,270,126	2,910
1921	3,536	2,632	12,172,803	16,346,163	13,515
1922	4,818	3,232	17,935,492	19,036,554	3,456
1923	5,671	3,491	22,155,943	32,598,029	3,073
1924	4,638	3,257	19,125,346	24,220,048	3,005
1925	5,979	4,061	24,918,004	29,272,357	5,742
1926	6,137	4,049	26,157,854	34,321,373	5,272
1927	5,321	3,822	22,950,936	32,934,772	2,950
1928	5,597	3,905	24,494,251	33,743,164	2,875
1929	5,632	3,910	24,794,492	36,037,355	4,925
1930	4,664	3,387	20,030,811	28,337,624	3,081
1931	4,753	3,309	15,491,767	16,129,619	6,348
1932	4,015	2,882	10,680,409	14,508,071	4,967
1933	4,607	3,155	16,208,770	15,281,419	6,364
1934	4,235	3,002	16,310,759	14,753,460	7,558
1935	4,847	3,460	19,024,431	17,156,702	7,921
1936	6,155	3,982	24,146,729	28,102,562	10,238
1937	6,126	3,978	25,666,185	38,777,852	4,055
1938	3,400	2,562	12,005,108	13,597,981	9,022
1939	5,733	3,933	22,876,910	27,975,735	8,326
1940	6,078	4,042	26,502,623	40,738,371	4,434
1941	7,378	4,647	31,901,784	51,185,209	2,591
1942	8,706	5,070	36,119,859	57,395,936	233
1943	6,993	4,285	30,249,618	48,262,548	0
1944	6,276	4,200	26,158,764	34,701,967	27
1945	6,105	4,229	26,227,895	32,076,842	3,725
1946	5,340	3,948	22,754,175	24,977,676	11,823

SABIN LOCK (PREVIOUSLY FOURTH LOCK) (OPENED SEPT. 18, 1919)

1919	1,323	890	5,214,400	10,745,825	160
1920	5,539	3,364	23,272,285	51,542,792	962
1921	3,961	2,870	14,628,895	29,398,225	8,066
1922	5,164	3,128	20,640,683	44,378,786	1,709
1923	6,675	3,691	26,370,591	55,591,159	1,385
1924	5,490	3,678	22,450,161	44,958,975	2,126
1925	6,352	3,957	25,982,676	50,099,611	1,704
1926	6,348	3,775	25,898,023	49,444,286	2,234
1927	5,803	3,879	24,470,311	48,110,914	2,243
1928	5,861	3,759	24,118,664	49,089,806	1,977
1929	5,721	3,790	23,880,120	50,590,508	1,998
1930	4,871	3,382	20,534,661	41,399,219	2,214
1931	5,144	3,590	16,496,715	26,256,620	6,578
1932	1,565	1,116	3,115,341	3,638,897	972
1933	4,344	2,952	14,757,422	22,747,444	3,389
1934	4,419	3,214	16,588,263	25,766,873	6,871
1935	5,195	3,698	19,484,402	29,204,224	5,431
1936	6,320	4,057	24,875,583	39,038,753	6,834
1937	6,410	4,173	25,975,494	46,547,156	2,589
1938	4,460	3,304	14,907,113	24,177,292	6,367
1939	5,801	3,979	22,557,560	38,014,057	4,649
1940	6,503	4,103	26,197,851	46,589,482	1,850
1941	7,609	4,642	31,011,477	56,013,034	4,268
1942	8,908	4,993	34,797,287	59,383,265	186
1943	7,352	4,303	30,339,906	53,049,470	0
1944	6,669	4,166	24,958,935	38,861,236	23
1945	6,103	3,977	23,627,034	36,016,819	1,622
1946	4,689	3,249	18,024,346	22,995,770	9,688

MacARTHUR LOCK (OPENED JULY 11, 1943)

1943	1,994	1,785	7,589,112	7,844,505	0
1944	3,691	3,539	18,121,463	39,800,250	0
1945	3,890	3,772	19,251,120	41,966,981	179
1946	4,709	4,517	22,465,743	41,661,363	13,131

Statement of traffic through American and Canadian locks since opening in 1881—Continued

COMBINED AMERICAN LOCKS

Year	Passages	Lockages	Registered tonnage	Freight tonnage	Passengers
1881	4,004	887	2,092,757	1,567,741	24,671
1882	4,774	2,572	2,468,088	2,029,521	29,256
1883	4,315	2,351	2,042,259	2,267,105	39,130
1884	5,689	3,074	2,997,837	2,874,557	54,214
1885	5,380	2,863	3,035,937	3,256,628	36,147
1886	7,424	3,593	4,219,397	4,527,759	27,088
1887	9,355	4,165	4,897,598	5,494,649	32,668
1888	7,803	3,845	5,130,659	6,411,423	25,558
1889	9,579	4,684	7,221,935	7,516,022	25,722
1890	10,557	4,970	8,454,435	9,041,213	24,856
1891	10,191	4,987	8,400,685	8,888,759	26,190
1892	12,580	5,867	10,647,203	11,214,333	25,896
1893	12,008	5,553	8,949,754	10,796,572	28,869
1894	14,491	6,431	13,110,366	13,195,860	27,236
1895	16,793	7,039	16,089,878	14,471,648	30,910
1896	13,081	6,423	12,896,988	11,679,024	22,438
1897	12,812	5,967	13,823,836	14,039,626	28,705
1898	14,058	7,008	15,871,609	18,184,151	27,558
1899	16,480	8,389	19,021,489	22,252,139	33,664
1900	16,369	8,479	20,136,782	23,607,354	36,313
1901	15,837	8,411	22,222,334	25,582,038	29,701
1902	17,588	9,427	27,408,021	31,232,795	22,778
1903	14,243	8,395	22,998,864	29,172,252	23,156
1904	12,153	7,293	20,160,042	26,517,916	21,606
1905	16,019	9,757	31,121,233	38,802,190	28,401
1906	16,475	10,367	34,789,793	45,180,292	30,925
1907	14,091	9,428	32,001,110	42,631,846	32,875
1908	9,891	6,739	21,487,499	28,657,297	23,079
1909	12,803	8,607	28,939,463	30,132,374	27,736
1910	12,927	8,738	26,506,986	25,927,661	33,536
1911	11,870	8,064	22,321,519	22,523,347	40,771
1912	14,916	9,888	30,947,133	32,824,815	29,595
1913	15,599	10,601	32,062,619	37,022,201	40,496
1914	12,639	8,715	24,690,381	27,771,467	29,792
1915	16,910	10,319	47,918,847	63,548,993	25 378
1916	18,716	11,417	57,038,207	75,085,219	23,307
1917	17,536	10,469	53,413,807	74,361,850	11,990
1918	15,537	10,869	51,079,127	72,758,680	8,042
1919	13,517	9,127	43,603,991	64,097,583	15,836
1920	14,838	10,116	53,055,292	76,801,812	24,999
1921	8,961	6,587	28,396,403	46,256,524	23,904
1922	13,876	9,389	47,854,275	64,355,823	23,358
1923	18,008	11,261	62,197,312	89,120,902	20,788
1924	14,551	10,336	52,299,390	70,403,297	19,458
1925	17,117	11,658	63,550,140	80,236,729	22,352
1926	17,548	11,625	66,328,858	84,258,340	20,658
1927	15,520	11,233	59,843,101	81,882,489	20,624
1928	15,928	11,229	62,251,697	84,985,117	21,775
1929	16,209	11,553	63,363,447	90,242,779	21,061
1930	13,863	10,133	51,348,738	71,206,424	17,627
1931	9,962	6,942	32,110,997	42,386,758	12,956
1932	5,580	3,998	13,795,750	18,146,968	5,939
1933	8,979	6,127	31,028,728	38,033,441	9,753
1934	8,700	6,260	33,092,746	40,520,404	14,564
1935	10,063	7,177	38,615,830	46,360,926	13,352
1936	13,379	8,777	52,014,304	67,250,896	18,109
1937	16,727	11,577	64,341,975	85,816,693	19,540
1938	7,860	5,866	26,912,231	37,775,273	15,389
1939	13,746	9,792	52,228,826	67,073,535	16,140
1940	17,280	12,143	68,287,676	87,902,942	21,143
1941	21,020	14,260	81,977,769	108,349,738	31,957
1942	21,532	13,317	82,782,173	117,163,347	529
1943	20,302	13,427	78,471,563	111,282,305	0
1944	20,034	14,925	81,806,269	114,426,206	55
1945	19,814	15,279	82,724,931	110,964,610	6,797
1946	14,770	11,741	63,347,746	89,647,966	34,737

Statement of traffic through American and Canadian locks since opening in 1881—Continued

CANADIAN LOCK (OPENED SEPT. 9, 1895)

Year	Passages	Lockages	Registered tonnage	Freight tonnage	Passengers
1895	1,163	695	716,903	590,932	746
1896	5,174	3,043	4,352,430	4,560,037	14,628
1897	4,359	2,604	3,796,097	4,943,129	11,508
1898	3,703	2,525	2,751,145	3,050,513	15,868
1899	3,775	2,610	2,936,858	3,003,671	15,418
1900	3,083	2,206	2,179,052	2,035,719	22,242
1901	4,204	2,910	2,404,642	2,821,027	29,962
1902	5,071	3,419	4,547,561	4,728,351	36,599
1903	4,353	3,247	4,737,580	5,502,185	32,019
1904	3,967	3,022	4,204,096	5,028,190	16,089
1905	5,660	4,035	5,496,466	5,468,490	25,803
1906	5,680	4,156	6,308,531	6,570,788	32,108
1907	6,346	4,592	12,086,864	15,585,368	29,883
1908	5,290	3,946	9,604,231	12,733,260	30,208
1909	6,401	4,946	17,812,254	27,762,775	32,212
1910	7,972	5,831	23,349,137	36,435,557	33,397
1911	6,803	5,228	19,331,969	30,953,869	39,180
1912	7,862	6,200	25,789,674	39,647,861	37,282
1913	8,196	6,266	25,927,096	42,696,143	36,698
1914	6,078	4,787	17,295,958	27,598,467	30,009
1915	4,323	3,489	8,480,300	7,741,311	24,958
1916	6,691	4,773	12,786,256	16,803,000	31,615
1917	5,349	4,142	11,893,426	15,452,048	26,349
1918	5,073	4,034	10,021,217	12,921,647	26,948
1919	4,070	3,175	6,485,099	4,187,959	41,156
1920	4,009	3,077	5,138,791	2,480,684	43,452
1921	3,886	3,066	3,787,837	2,002,730	42,717
1922	3,057	2,889	4,741,582	1,711,435	35,685
1923	3,967	3,275	6,349,100	2,258,756	35,596
1924	3,315	2,793	4,990,842	1,634,093	34,318
1925	3,533	3,030	5,689,380	1,638,379	34,604
1926	3,350	2,766	4,962,004	1,420,747	32,046
1927	3,239	2,758	4,492,261	1,471,575	34,491
1928	3,358	2,872	4,584,066	2,007,880	34,278
1929	3,585	3,032	4,876,123	2,379,238	33,354
1930	2,955	2,528	3,480,031	1,691,328	27,676
1931	3 994	2,595	3,806,047	2,226,913	20,650
1932	3,099	2,579	3,455,155	2,333,905	14,302
1933	3,121	2,594	3,341,572	2,274,452	11,190
1934	2,699	2,294	2,701,854	1,727,727	19,072
1935	2,897	2,453	2,950,423	1,932,382	19,585
1936	3,236	2,721	3,754,979	2,277,704	22,676
1937	3,255	2,739	4,049,245	1,817,006	27,713
1938	3,341	2,756	3,235,450	2,267,466	26,163
1939	3,329	2,807	4,218,260	2,776,727	24,361
1940	3,557	2,801	4,363,719	1,955,377	31,986
1941	4,845	3,610	7,068,843	2,771,946	57,867
1942	5,352	4,089	10,850,296	3,036,132	42,316
1943	4,649	3,554	8,127,410	4,569,598	40,292
1944	3,469	2,876	6,132,869	2,811,825	47,611
1945	2,594	2,195	4,207,076	2,018,020	39,247
1946	3,225	2,705	4,242,662	1,938,929	53,134

LAKE SUPERIOR COMMERCE
1855–1946

The movement of freight to and from Lake Superior previous to the opening of the State Canal, in 1855, was by boat to Sault Ste. Marie, where the cargoes were unloaded, taken across the portage 1 mile long, and reloaded aboard boats.

In 1851 about 12,600 tons passed over the tramway portage; the transhipments to Lake Superior ports comprised the articles hay, oats, dry goods, groceries, and mining machinery to the value of $1,000,000 and those to lower lake ports included copper, iron blooms, and fish, valued at $675,000.

During the 92 years the canal has been in commission, the yearly traffic has increased from a minimum of 14,503 tons in 1855 to 120,199,479 tons in 1942, the maximum record.

The tonnage for each decade since the canal has been in commission is as follows:

Years	Tons	Years	Tons
1855–64	1,203,358	1915–24	763,934,346
1865–74	4,829,247	1925–34	651,071,593
1875–84	14,868,639	1935–44	869,618,024
1885–94	80,343,218	1945–46 (2 years)	204,569,529
1895–1904	253,002,697		
1905–14	576,926,068	Total	3,420,366,715

HISTORICAL NOTES

The St. Marys Rapids is about ¼ mile wide and ¾ mile long. The fall of water ranges from 18 to 24 feet with the varying stages of water. The first canal was built on the Canadian side of the river by the Northwest Fur Company in 1797–98. The lock was 38 feet long, 8 feet 9 inches wide, with a lift of 9 feet. A towpath was made along the shores for oxen to track the bateaux and canoes through the upper part of the rapids. The lock, excepting its timber floor and miter sills, was destroyed in 1814 by United States troops from Mackinac Island under the command of Major Holmes. The first ship canal, known as the State Canal, was built on the American side of the river in 1853 to 1855; some 750,000 acres of land in Michigan having been granted by the United States Congress for the construction thereof. The canal was 1½ miles long, 64 feet wide at the bottom, and 100 feet wide at the water surface. There were two tandem locks of masonry, each 350 feet long by 70 feet wide, with a lift of about 9 feet. The depth in the canal was about 13 feet and in the locks about 11½ feet at the stage of water then prevailing. Captain A. Canfield, topographical engineer, United States Army, made the original surveys. Charles T. Harvey was superintendent of construction, and the St. Marys Falls Ship Canal Co. was the contractor. The locks were destroyed in 1888 by excavations for the present Poe Lock.

The locks and canals

The Weitzel Lock, 515 feet long, 80 feet wide in chamber, narrowing to 60 feet at the gates, with 17 feet depth of water originally on the miter sills, was built by the United States in the years 1873 to 1881, and opened to traffic September 1, 1881. During the same period the canal was correspondingly deepened and was widened to 160 feet, and the stone slope walls were replaced with timber piers having a vertical face. Boyle & Roach were the principal contractors. The lock was destroyed in 1942 by excavations for the present MacArthur Lock.

The Canadian canal, 1⅛ miles long, 150 feet wide, and 23 feet deep, with lock 900 feet long and 60 feet wide, originally having 22 feet of water on the miter sills (16.8 feet at present low-water datum), was built on the north side of the river in the years 1888 to 1895. Hon. Collingwood Schreiber was chief engineer of Dominion Canals, and W. G. McNeill Thompson was the Government engineer in local charge of construction work. Ryan & Haney were the contractors.

The Poe Lock, 704 feet long between inner gates, 100 feet wide, and originally having 22 feet of water on the sills (16.6 feet at present low-water datum), was built by the United States in the years 1887 to 1896. Hughes Bros. & Bangs were the principal contractors. The width of this lock was reduced to 95 feet by reinforcement of the south lock wall in 1943.

The Davis Lock, 1,350 feet long between inner gates, 80 feet wide, and originally having 24½ feet of water on the miter sills (23.1 feet at present low-water datum), was build by the United States in the years 1908 to 1914, and opened to traffic October 21 of the latter year.

The Sabin Lock, of the same dimensions as the Davis Lock, was built by the United States in the years 1913 to 1919 and opened to traffic 18 September 1919.

The MacArthur Lock, 800 feet long between inner gates, 80 feet wide, and having 31.0 feet of water on the miter sills at present low-water datum, was built by the United States in the years 1942 to 1943 and opened to traffic 11 July 1943.

The canal (North Canal) leading to the Davis and Sabin Locks has a least depth of 23.1 feet. The canal (South Canal) leading to the MacArthur and Poe Locks has a least depth of 25 feet, except in the north draw at Bridge Island where the depth is 24.3 feet. The length between the upper and lower entrances is about 1¾ miles.

The present low-water planes are 601.1 feet, at the head, and 579.4 feet, at the foot of the locks, above mean tide at New York, levels of 1935.

Improvements

Improvements leading to the canal include those parts of the St. Marys River channels which have been dredged through shoals of sand, clay, boulders, sandstone, and limestone rock. The United States Government made the first appropriation for improving the river channels in 1856. The Lake George route was improved for 12 feet draft, 1857 to 1860 and 1867 to 1869. The depth was increased to 16 feet, 1879 to 1883. The Lake Nicolet route was improved for a depth of 20 feet at mean stage of water between the years 1882 and 1894. The Middle Neebish Channel was opened to commerce on 7 June 1894. Betterment of the channels has been continued since that time so that the dredged areas now total 45 miles in length, with least width of 300 feet of one-way traffic and 600 feet for two-way traffic increasing at angles and other critical places up to 1,500 feet.

In 1903 the excavation of the Middle and West Neebish Channels was begun for 21-foot depth. The West Neebish Channel was opened to commerce 16 August 1908, and the deepening of the Middle Neebish Channel was completed in 1912.

The channels through Round Island Middle Ground and Round Island Shoals 1 and 2 were improved during 1930–32 to a minimum width of 1,000 feet, the present depth being 26.8 feet. The channel between Brush Point and Point Louise was improved in 1937 to a depth of 26 feet, with a minimum width of 1,000 feet. Vidal Shoals channel was deepened during 1931–33, with a depth at present of 25.5 feet, and a width of 1,500 feet. In the channels about the locks the least depth is 25.5 feet, and minimum width 1,000 feet.

Bayfield and Little Rapids Channels from the locks to Lake Nicolet were deepened during 1932–34. At present Bayfield Channel has a depth of 26.0 feet and Little Rapids Channel a depth of 25.0 feet. Lake Nicolet was deepened during 1932–33 for a width of 1,500 feet, from Six Mile Point to the upper entrance lights of the West Neebish Channel. The present depth is 24.8 feet.

The West Neebish Channel which is normally used as a down-bound channel was closed from 24 April 1931 to 18 July 1933 while deepening was in progress. During this period the Middle Neebish Channel, which is normally an up-bound channel, was used for two-way traffic. At present the rock-cut section of the West Neebish Channel has a depth of 26.2 feet, the hard bottom sections just above and below the rock-cut section have a depth of 24.8 feet, and the soft bottom sections a depth of 25.0 feet. The West Neebish Channel has a least width of 300 feet.

During 1928–30 the Middle Neebish Channel was widened from 300 feet to 500 feet, with a minimum depth at present of 21 feet.

Lake Munuscong Channel from Point Aux Frenes to Lime Island was deepened and widened during 1933–34 and 1939. At present the least width is 1,200 feet and depth 25.0 feet.

Crab Island Shoal at the Detour entrance to the lower river was deepened in 1933. The present depth is 27.0 feet.

Operation of locks

Electricity generated by water power is used for operating all locks. An auxiliary diesel-electric power plant was installed in 1943 for emergency use. The American locks are filled in about 12 minutes and the gates opened in 1½ minutes.

Lockages of a single boat have been made through the MacArthur Lock in 10 minutes, through the Poe Lock in 10 minutes, through the Davis Lock in 13 minutes, and through the Sabin Lock in 11 minutes; but the average time spent in making a lockage last season was 29 minutes 37 seconds, this difference being due to the slow movement of large boats while entering and leaving the locks and to the fact that in 26 percent of the lockages more than one boat was passed.

The Canadian Lock can be operated in about 10 minutes. The average time of lockage through the Canadian Lock last season was 22 minutes 28 seconds.

From 1855 to 1881 the canal was controlled by the State of Michigan, and tolls charged to cover operating and repair expenses, the rate at first being 6⅓ cents per registered ton, which was gradually reduced to 2½ cents. Similarly, the minimum charge for lockage of a boat was reduced from $5 to $3. Since control was transferred to the United States in 1881 the American canal has been free for public use by all nations. Likewise, the Canadian canal has not collected tolls for passing either foreign or domestic commerce.

Operating and maintenance force

The lock force under State control consisted of about 20 men, having 1 watch only, as night navigation of the river was then impossible. Under United States control 2 watches of 12 hours each were established in 1881. The same continued until 1891 when 3 watches of 8 hours each were adopted. The force engaged in passing boats has been increased with the growth of commerce, the number now aggregating 173. In addition there are approximately 140 other persons employed as engineers, clerks, storekeepers, janitors, electricians, mechanics, and laborers.

Engineer officers in charge

The Engineer Officers in charge of the river improvements were: Capt. A. W. Whipple, 1858–61; Col. T. J. Cram, 1866–70; Maj. O. M. Poe, 1870–73; Col. G. Weitzel, 1873–82; Maj. F. U. Farquhar, 1882–83; Col. O. M. Poe, 1883–95; Col. G. J. Lydecker, 1896–1902; Maj. W. H. Bixby, 1902–04; Col. Charles E. L. B. Davis, 1904–08; Col. C. McD. Townsend, 1908–12; Col. Mason M. Patrick, 1912–16; Col. Harry Burgess, 1916–17; Col. F. W. Alstaetter, 1917–18; Mr. L. C. Sabin was district engineer, 1918–19; Col. E. M. Markham, 1919–25; Lt. Col. E. J. Dent, 1925–28; Maj. D. McCoach, Jr., 1928–32; Lt. Col. R. C. Crawford, 1932–36; Col. V. L. Peterson, 1936–38; Col. C. R. Pettis, 1938–39; Major H. B. Pettit, 1939–40; Col. R. G. Barrows, 1940–43; Col. Paschal N. Strong, 1943; Col. Allison Miller, 1943–45; Col. A. Riani, 1946–.

General superintendents

The general superintendents in charge of operating and care of the locks and canal and river improvements were; Alfred Noble, 1870–82; E. S. Wheeler, 1882–97; Joseph Ripley, 1897–1906; L. C. Sabin, 1906–25; Isaac De Young, 1925–40; Herman F. Rook, 1940–44; J. E. Harns, 1944–.

Costs

Original cost, improvement and re-construction cost, and total cost to date are as follows:

Project	Original cost	Improvement and re-construction	Total
Locks and canal of 1855	$ 999,802		$ 999,802
Weitsel lock	983,335	$ 11,537	994,872
MacArthur lock [1]	12,464,445	7,649	12,472,094
Poe lock	2,837,337	655,276	3,492,613
Davis lock	2,278,000	298,907	2,576,907
Sabin lock	2,402,700	50,683	2,453,383
South canal	8,990,458		8,990,458
North canal	3,300,654		3,300,654
Emergency dams	563,832		563,832
United States power-house	341,000	592,571	933,571
General (piers, grounds, etc.)		939,703	939,703
Total	$35,161,563	$2,556,326	$37,717,889
Canadian lock and canal			5,000,000
Total locks and canal	$35,161,563	$2,556,326	$42,717,889
St. Marys River improvements			18,329,112
St. Marys River maintenance			2,307,536
Grand total			$63,354,537

[1] Costs to 31 December 1946; project not complete.

Operating and care of St. Marys Falls Canal, Mich.

Year	Improvement and reconstruction	Operating	Repairs	Total operating and repairs	Cost per freight ton
EXPENDITURES BY FISCAL YEARS					*Mills*
1882		$ 21,185.86	$ 6,360.00	$ 27,545.86	14.67
1883		22,134.97	14,200.80	36,335.77	19.38
1884		20,337.61	9,148.68	29,486.29	11.61
1885		18,635.27	10,429.25	29,064.52	10.12
1886		18,871.84	7,217.28	26,089.12	7.05
1887		18,887.11	2,945.44	21,832.55	4.47
1888		22,858.57	7,144.89	30,003.46	5.38
1889		23,987.45	6,616.16	30,603.61	4.41
1890		22,737.53	13,985.74	36,723.27	4.43
1891		34,657.27	10,303.52	44,960.79	5.39
1892		37,895.93	23,345.16	61,241.09	6.06
1893		34,402.15	7,425.92	41,828.07	3.86
1894		43,103.27	12,028.94	55,132.21	4.94
1895		39,063.20	11,472.41	50,535.61	3.71
1896		34,806.92	24,822.16	59,629.08	4.14
1897		46,750.02	32,457.13	79,207.15	6.70
1898		43,464.99	13,209.17	56,674.16	3.79
1899		65,142.64	23,858.24	89,000.88	4.69
1900		59,282.46	21,026.81	80,309.27	3.27
1901		59,457.05	16,102.29	75,559.34	3.60
1902		66,914.75	21,680.78	88,595.53	2.95
1903		62,648.42	20,297.67	82,946.09	2.62
1904		66,563.96	26,514.11	93,078.07	4.95
1905		64,423.96	20,998.96	85,422.92	2.43
1906		69,259.66	20,410.36	89,670.02	2.17
1907		68,162.42	21,664.84	89,827.26	2.00
1908		67,652.07	42,266.64	109,918.71	3.24
1909		68,963.78	37,550.48	106,514.26	3.25
1910		70,608.98	32,487.20	103,096.18	3.76
1911		70,968.97	78,657.04	149,626.01	6.35
1912		71,135.66	81,061.68	152,197.34	5.83
1913		70,024.71	81,723.72	151,748.43	4.10
1914		69,998.81	47,439.29	117,438.10	3.62
1915		77,087.18	36,518.76	113,605.94	3.13
1916		84,958.86	46,430.39	131,389.25	1.90
1917		88,798.60	33,066.16	121,864.76	1.72
1918		94,015.50	28,846.82	122,862.32	1.60
1919		116,161.57	33,504.16	149,665.73	2.00
1920		131,306.83	33,400.17	164,707.00	2.70
1921		142,520.43	67,065.07	209,585.50	2.88
1922		132,905.16	63,832.54	196,737.70	4.56
1923		141,199.42	104,942.47	246,141.89	3.21
1924		156,628.65	107,145.03	263,773.68	3.02
1925		166,647.49	106,253.68	272,901.17	3.70
1926		171,916.71	89,917.49	261,834.20	3.37
1927		176,068.89	93,568.54	269,637.43	2.96
1928		148,943.83	102,869.19	251,813.02	3.41
COSTS BY CALENDAR YEARS					
1929		145,611.52	95,198.27	240,809.79	2.67
1930		147,840.61	107,083.65	254,924.26	3.58
1931		125,700.72	136,422.72	262,123.44	6.18
1932		83,084.29	158,303.74	241,388.03	13.30
1933		83,395.51	150,471.44	233,866.95	6.15
1934		105,195.95	136,399.59	241,595.54	5.96
1935		146,322.72	175,115.78	321,438.50	6.93
1936		174,093.57	181,546.50	355,640.07	5.29
1937		187,659.62	189,348.08	377,007.70	4.39
1938		163,906.50	208,622.78	372,529.28	9.86
1939		193,330.36	193,177.27	386,507.63	5.76
1940		214,090.94	185,062.54	399,153.48	4.44
1941	$ 25,314.63	213,351.36	110,345.77	323,697.13	2.99
1942	399,520.94	252,513.03	114,840.77	367,353.80	3.14
1943	681,422.97	297,293.25	175,388.55	472,681.80	4.25
1944	47,827.23	359,432.08	148,772.62	508,204.70	4.44
1945	454,215.69	417,242.50	275,688.14	692,930.64	6.24
1946	73,312.32	437,743.56	351,622.83	789,366.39	8.81

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